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# REPORT OF WATERFRONT COMMITTEE

December 14, 1970

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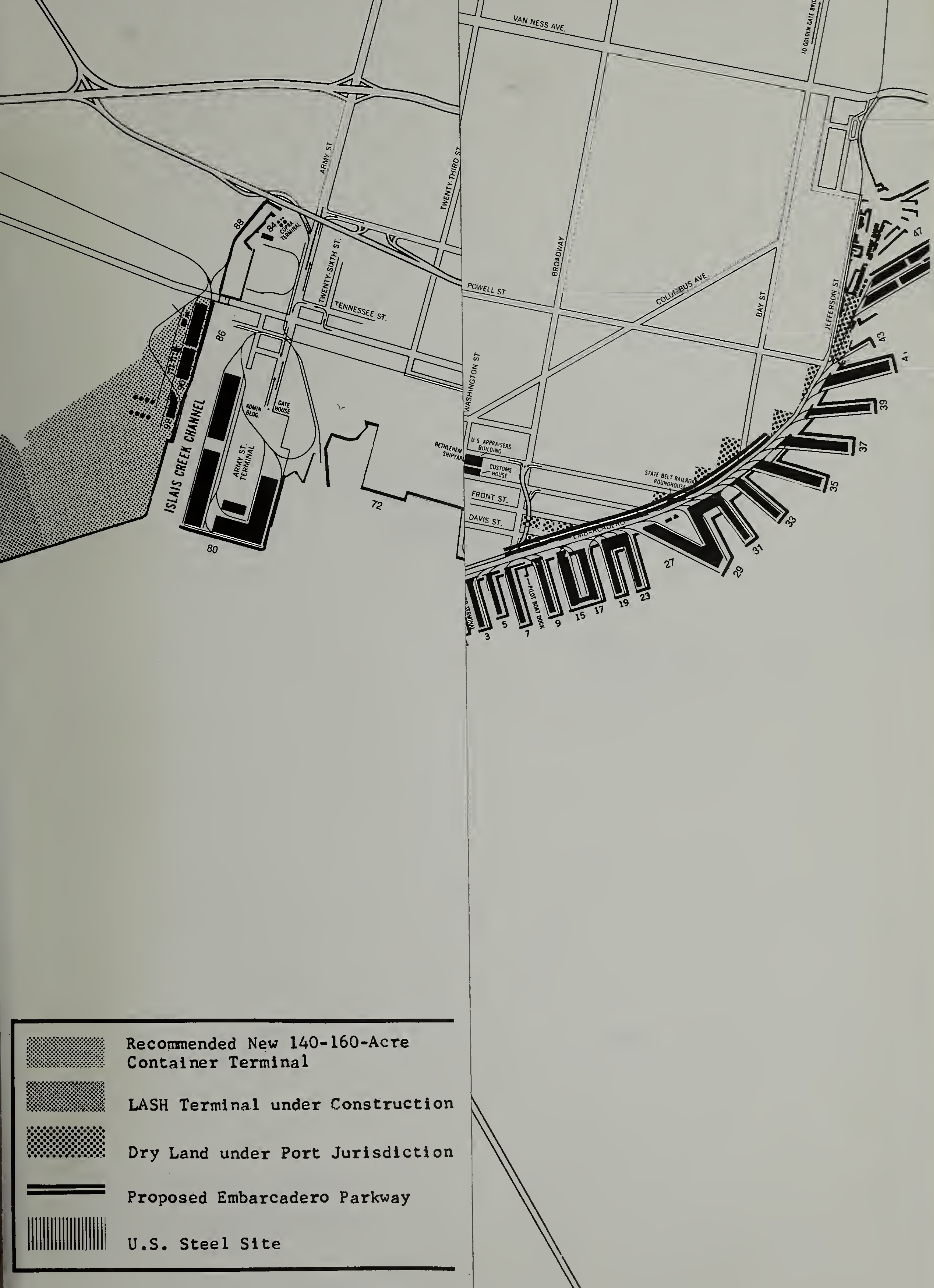
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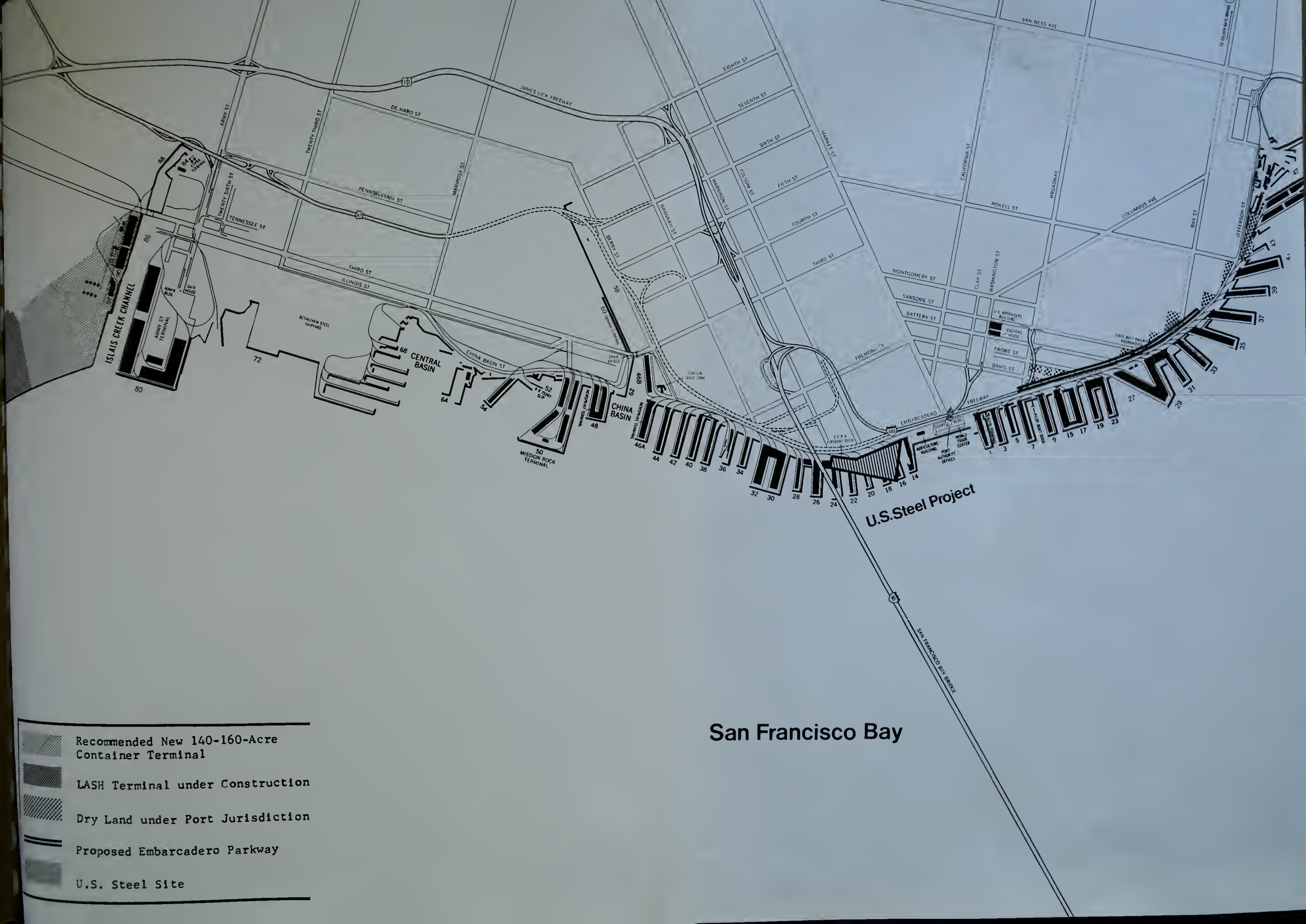
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# REPORT OF WATERFRONT COMMITTEE

December 14, 1970

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# INTRODUCTION

Intense public interest in the Port of San Francisco was generated by a City Planning Commission recommendation on September 10, 1970, that a 550-foot height limit be allowed for the United States Steel Corporation's proposed waterfront development. This recommendation led into the broad subject of how the Port should be developed in its entirety. Because the height limit question was extremely controversial, a great deal of emotion and heated discussion has marked the debates on the matter.

In addition to the problem of emotion, there also was the problem of a lack of up-to-date financial data on the Port. Specifically, the latest data was more than three years old.

Accordingly, it was agreed that what was needed was a thorough, careful, businesslike, up-to-date review of the entire economics of the Port and a committee to make such a review was constituted in October, chaired by Mortimer Fleishhacker, Jr., San Francisco businessman and City Planning Commissioner, and consisting of the following members:

Roger Boas, San Francisco businessman and City Supervisor

Kenneth Edwards, President of the San Francisco Building and Construction Trades Council

Mrs. Dorothy Erskine, conservationist and former member of the San Francisco Bay Conservation and Development Commission

Richard Holton, Dean of the Graduate School of Business Administration at the University of California

Father Albert R. Jonsen, President of the University of San Francisco

Stanley Powell, Jr., former President of Matson Lines

William M. Roth, developer of Ghiradelli Square and Chairman of SPUR

The Committee hired Gruen Gruen + Associates who had worked on the earlier Port studies and who came with high professional qualifications and recommendations. The cost of the study was financed by the Committee through private donations.

Gruen Gruen + Associates worked with the Committee to study three general issues. First, the financial and shipping

facility needs of the Port were to be analyzed, including the requirements of passenger and cargo commerce. Secondly, the implications of reducing the height of the proposed U.S. Steel project were to be forecast. Finally, the economic and other implications of alternative approaches to non-shipping waterfront development were to be analyzed.

The Committee and its consultant express their great appreciation to the staffs of the Port of San Francisco and the San Francisco Department of City Planning for their patient and continuous cooperation during the course of this study.

What follows is a summary of the Committee's analysis and statements of its recommendations. The research and analysis is further detailed in the Appendix.

The Committee believes this report presents an up-to-date study of the economic situation of the San Francisco waterfront and that, if the recommendations are followed, the waterfront will provide economic, aesthetic and recreational benefits to the citizens of San Francisco and the entire Bay Area.

## ISSUE 1: SEPARATION OF FISCAL PLANNING AND DEVELOPMENT FOR SHIPPING AND NON-SHIPPING PORT PROPERTY

### COMMITTEE ANALYSIS AND RECOMMENDATIONS:

In viewing the waterfront, we should separate in our minds shipping from non-shipping activities. Financing and developing shipping facilities should be kept separate from financing and developing non-shipping waterfront property. If one tries to plan shipping and non-shipping activities simultaneously, the issues become confused. Each kind of development has its own unique set of goals and problems. The City must face up to the decision of whether or not it wants to invest further in shipping facilities. It must face up to the decision of how it wants to develop the rest of the Port not devoted to shipping. These two decisions are not interrelated and should be viewed separately.

Historic circumstances and legal directives have tied the financing of needed shipping facilities to the development of rental producing commercial non-shipping waterfront real estate. The Port Commission, whether under State or City control, has taken great and understandable pride in having been "self-sufficient" for more than 100 years. They have traditionally responded to the cash needs induced by the competition for cargo and technological change by increasing the rental of waterfront property not needed for shipping to restaurateurs, real estate entrepreneurs and users of storage space. Thus, they have come, and been directed by law, to view waterfront property not needed for shipping purposes as a resource from which to wring a maximum of rental receipts to be used for the financing of new terminals.

Continuation of this policy is no longer wise for the following principal reasons:

1. Steamship cargo technology is in the midst of a revolution. A competitive response to this revolution requires the immediate construction of at least another new container terminal in addition to the presently under construction Lighter Aboard Ship terminal. Construction on the additionally needed facility should start now if shippers and carriers who have traditionally utilized facilities in San Francisco are not to be lost to competition. The realities of the competition that exist between ports would make it unwise to postpone the construction of this facility. The City cannot afford to wait until the required $32,000,000 could be financed with revenue bonds to be backed by the proceeds of yet to be constructed real estate development rents.

2. If one were to assume that all of the waterfront property not needed for shipping should be used for its highest paying commercial possibility, such development should take place relatively slowly. There is a definite limit to the amount of premium priced restaurant, office and hotel space that can be marketed at any one point in time. This is true even on the waterfront with its obvious potential monopoly of exclusive water views. However, because the Port, under its present policy, must finance its immediate shipping needs through real estate developments, it is motivated toward rapid development to generate cash now, even if the long-run rentals produced are not as high as they could be.

3. Waterfront development is also unique in that many citizens consider it to be a public resource that should at least partially serve recreational needs. Furthermore, any waterfront development is a powerful lever that affects the general development of the City. Thus, for example, the development of very large-scale office space south of the Ferry Building would tend to serve as a magnet for other intensive office development along such streets as Folsom, Howard and Harrison. This would be considered undesirable by those who support the Board of Supervisors' approved downtown zoning study which calls for a concentrated development of the downtown area. Thus, the criteria that non-shipping development should maximize the revenues obtainable from a waterfront site frequently come into conflict with the objectives of providing recreation and guiding City growth patterns.

4. The planning and organizational talents required to bring about good shipping development differs from those required to plan and implement a sensitive non-shipping real estate and recreational development.

Thus, the Committee recommends that the financing and development of shipping facilities be considered separately from the financing and development of non-shipping facilities.

## ISSUE 2: THE ECONOMIC AND FINANCIAL NEEDS OF THE SAN FRANCISCO PORT

### COMMITTEE ANALYSIS AND RECOMMENDATIONS:

The Port has and continues to play a critical role in shaping the economy and character of the Bay Area. The valuable cargo that moves through the Port creates a chain of jobs that begins with the stevedores on the waterfront but extends into the finance, wholesaling, surface transportation and general office activities of the Bay Region. San Francisco is the most important recipient of these benefits. A detailed study completed in 1966 attributed 23,000 jobs and $195,000,000 in payroll to the cargo-handling activities of the Port.

The technological revolution in the steamship industry, whose mechanical trappings include the container ship and the even newer lighter aboard ship (LASH) concept, has made many of the Port's older piers, over which cargo is still now moving, obsolete. More new facilities are needed in spite of the fact that the Port has spent $50,000,000 on new facilities completed since 1957 and is now engaged in the construction of the first LASH terminal to be built on the West Coast. When completed, the LASH facility will cost more than $20,000,000. The previously mentioned need for another $32,000,000 container terminal is required to replace even older piers, many of them built before 1929, that are still in active service.

The maintenance of a strong competitive port in San Francisco may be important to the preservation of shipping in the San Francisco Bay Region. While San Francisco apparently still holds an edge in its receipts of very high value foreign general cargo, the Port of Oakland drew abreast of San Francisco's total tonnage receipts in 1965. Between 1965 and 1968 the entire West Coast's general cargo tonnage increased by approximately 40%, while all Bay ports attracted only a 10% increase. Such ports as Seattle and Los Angeles have been diverting cargo from the Bay. In 1969 alone, Seattle's overland cargo increased by 25%. The historic and complex attractions of San Francisco as a cargo-handling port may not be easily or completely transferable to the East Bay. The Bay Region may not be well served by having all its cargo facilities in the East Bay, physically separated from the location of its institutional attractions in San Francisco, which include the headquarters of international banking, importers, exporters, maritime insurers, custom housing brokers, freight forwarders, shipping companies and the other decision-makers who influence cargo flow patterns. Thus,

even though there would be great merit in a program to coordinate the activities of Bay Area ports, the City of San Francisco should not abdicate its role as a viable port.

This means that the City must take steps now to provide the $32,000,000 needed for the construction of a 140-160-acre container facility on available land to the north of the LASH terminal. We have considered the implications of financing this new terminal through the issuance of revenue bonds or general obligation bonds similar to the $50,000,000 debt already assumed by the City of San Francisco. Financing the container facilities with general obligation bonds instead of revenue bonds of the type now being issued would save $5,578,000 in interest costs.

The option of issuing no bonds and not building the new facility would be the most expensive choice of all because it would cause a continual loss of cargo revenues as shipping tenants leave the Port. The cash flows that would be generated by the Port in the 23 years following the issuance of the G.O. bonds would even themselves out. However, a total cash flow deficit averaging approximately $1,600,000 a year might exist in the 11-year 1972-1983 period if non-cargo revenues do not increase through the addition of any more real estate developments. A surplus equal to at least this amount would be generated in the 1984-1995 period.

The Committee, therefore, recommends that San Francisco invest immediately in container facilities, specifically the construction of a 140-acre container terminal at a cost of $32,000,000. It believes this action is justified in order to keep San Francisco competitive and to protect the thousands of jobs which are at stake in the shipping industry.

The Committee believes this investment should be financed by the issuance of general obligation bonds and that the annual deficits resulting therefrom be defrayed from Port revenues and from the general fund, if necessary.

The Committee also recognizes that further expenditures for cargo-handling facilities may be required in the future. This decision cannot be made until the City has had more direct experience in container shipping.

In order to avoid overbuilding of shipping facilities throughout the Bay Area, the Committee recommends that the ports of the Bay Area get together to coordinate their building plans. The goal is twofold: to avoid overbuilding and to make the Bay a magnet for world shipping.

## ISSUE 3: NON-SHIPPING WATERFRONT DEVELOPMENT

### COMMITTEE ANALYSIS AND RECOMMENDATIONS:

The development of the waterfront must meet a complex set of citywide objectives even if the added funds required to build shipping facilities are not obtained from northern waterfront rents. The objective of concentrating the downtown was expressed in the 1966 downtown zoning study. This objective was accepted by implication when the Board of Supervisors enacted the downtown zoning proposal in 1968. Commercial office uses on the waterfront will draw similar uses to it. The Bolles' report reenforces this objective and the City Master Plan suggests developments on the waterfront of a type that do not compete or tend to disperse the existing concentration of the San Francisco central city.

Instead, the Master Plan looks toward a more unique commercial attraction for the waterfront which emphasizes citizen recreational use, the elimination of physical barriers which separate the water from public access and commercial construction where appropriate. Furthermore, both the Bolles' plan and the City Master Plan Amendment call for height restrictions aimed at aesthetic objectives related to the visual topography of San Francisco.

These objectives cannot be met by piecemeal planning, development or implementation. A carefully controlled time-phased program that takes total city development into account is called for. Much of the necessary planning of the waterfront has been incorporated into the Northern Waterfront Plan, adopted by the City Planning Commission.

The Committee recommends that any necessary additional planning decisions concerning the waterfront be made as soon as possible and that development of the non-shipping areas of the waterfront proceed in an orderly fashion following the guidelines of the Master Plan.

It is furthermore essential that all city agencies concerned with aspects of the waterfront and adjacent properties coordinate their efforts in a continuing planning and development process. As of today, a fully adequate and comprehensive plan, setting forth ultimate public priorities - economic, social and aesthetic - has not been available for public consideration.

## ISSUE 4: THE NEEDS FOR A PASSENGER TERMINAL

### COMMITTEE ANALYSIS AND RECOMMENDATIONS:

Current passenger volume including the double-counting of individuals who leave ships while they are temporarily docked before continuing their voyage is approximately 60,000. Our research and analysis indicates that passenger volume will not exceed 90,000 by 1974. There is clear evidence pointing to a decrease, if not the elimination, of passenger service on American flag vessels in the near future. A survey of shipping companies and travel agents suggests that the design and atmosphere of passenger terminals has a minimal influence on passenger volume. The revenue produced by a passenger terminal would only be in the neighborhood of $225,000 per annum by 1974 even if a head tax not presently chargeable were instituted.

Pier 35, which is presently being used to handle most of the passenger ship business, would cost approximately $100,000 per year to maintain over the next twenty years.

The Committee, with one exception, recommends that the City not invest in a new passenger terminal which would cost in excess of $5,000,000 but instead refurbish the existing passenger terminal at Pier 35 at a cost of $100,000 a year for 20 years. The Committee's reasoning is that the City saves millions of dollars and does not lose passengers by following this course of action.

Mr. Kenneth Edwards does not agree but instead recommends that a new passenger terminal be constructed south of the Ferry Building.

## ISSUE 5: HEIGHT LIMITS

### COMMITTEE ANALYSIS AND RECOMMENDATIONS:

The U.S. Steel project is in the preliminary planning stage so that cost and rental projections are difficult to forecast. As now conceived, the project includes a 550-foot tower of 1,200,000 square feet of office space, two smaller office buildings, a 1,000-room hotel and a three-ship passenger terminal. These structures must earn premium rents if there is to be an adequate return on the developer's $140,000,000 investment. Height is necessary to get these premium rents.

A problem with the proposed U.S. Steel site is that it is away from the main commercial and business areas. Thus, a tower structure and a passenger terminal are expected to create an image for an area that is not presently sought after by corporate tenants willing to pay premium rents.

Previously approved City Master and Zoning Plans call for concentrating office building development in the downtown areas along Market Street, in the financial district and south of Market Street in the Yerba Buena development. The proposed U.S. Steel project, as now conceived, would undermine this desired concentration downtown by creating a competing office building area.

At 550 feet, this project will produce approximately $400,000 in minimum rent to the Port and $3,000,000 in anticipated property taxes. It is not known how much revenue this project would produce if the height limit were set at 175 feet or less and the project were redesigned. However, this is valuable property which will attract developments, which will produce substantial revenues and taxes. For example, the Ferry Port Plaza, which is a different type of development than the proposed U.S. Steel project, has a maximum height limit of 125 feet and will produce a minimum rent revenue of $400,000 and approximately $3,000,000 in anticipated property taxes.

If the passenger terminal is eliminated from the project, the project costs will be reduced, thus making it possible to design at a lower and smaller scale and still have the project return substantial revenues.

The Committee, with two exceptions, recommends a basic height limit of 84 feet with an allowance of a 175-foot height limit for 10% of the site, based on the following:

1. A height limit greater than 175 feet clearly would violate the planning principles as laid down by the goals and

objectives in the City's adopted Master Plan for the Northern Waterfront.

2. A sound and economically feasible project can be built within the 175-foot height limit.

3. The City can only absorb so much new square footage of office space a year. 1,200,000 square feet of office space constructed on the waterfront would discourage, if not prevent, that amount of office space from being constructed elsewhere in the City.

Therefore, the $3,000,000 in property taxes produced by the proposed U.S. Steel project most likely would mean the loss of $3,000,000 in property taxes from an area where the office space might otherwise have been constructed.

The construction of a large office building well away from the areas now designated for office construction in the City's Master Plan is a further violation of the basic planning concepts approved for the City.

Mrs. Erskine recommends that the original 84-foot height limit be kept.

Mr. Edwards is not in favor of making a height limit recommendation.

Mr. Roth stresses that variances from a general plan should not, except under extraordinary circumstances, be made for an individual piece of property. Instead, if changes are necessary, they should be made in terms of a general revision of the total plan.

## ISSUE 6: THE BURTON ACT

### COMMITTEE ANALYSIS AND RECOMMENDATIONS:

The legislative act transferring the Port from the State to San Francisco requires the Port to spend $50,000,000 on shipping improvements within the next 10 years and an additional $50,000,000 for shipping improvements over the next 25 years for a total of $100,000,000. The Act also specifies that $100,000,000 in bonds must be sold to finance these shipping improvements. It further specifies that the only issue to be considered in developing non-shipping Port property is obtaining the greatest amount of revenue. If these requirements are not met, ownership of the Port will revert to the State.

To date, the Port has spent approximately $20,000,000 of the required $100,000,000 investment in construction of the LASH facility. If the Port also decides to invest $32,000,000 to construct a container facility, the Port will be $48,000,000 short of the required $100,000,000 investment.

The Committee believes the Burton Act should be amended but that amendment of the Act is of low priority. The Committee believes the Burton Act inhibits good fiscal and physical planning of the Port by requiring the Port to assume a bonded indebtedness of $100,000,000 no matter what the Port's actual development needs may be. If the Port's development needs cost more than $100,000,000, then this requirement does not matter; but, if the Port can maintain a technologically modern, competitive position in the shipping industry with a smaller development investment, the $100,000,000 investment requirement becomes very important.

Further, the Committee believes that development of non-shipping Port property should not be judged solely on the amount of revenue it produces, but rather on the community's total economic, recreational and aesthetic requirements.

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The members of the Waterfront Committee have been a working group utilizing Gruen Gruen + Associates to conduct the research and analysis required for their studies and discussions of the San Francisco Waterfront development issues that motivated the Committee's formation. The depth and focus of the continuing research conducted by Gruen Gruen + Associates during the past eight weeks have been disciplined by the specific needs of the Committee's deliberations. The economic data and analysis produced by the research was transmitted to the Committee in a series of ten working memoranda whose contents are summarized in this Appendix.

The contents of the working memoranda submitted to the Committee members fit into the four major title headings that subdivide this Appendix.

## I. The Economics of the U.S. Steel Project

We analyzed the specific nature of the proposed U.S. Steel project from three perspectives. First, a computer model designed to simulate the cash flows resulting from alternate design and marketing assumptions concerning complex real estate projects was used to analyze the project as it is presently conceptualized from the viewpoint of a real estate investor. Secondly, we considered the economics of the project as it might be viewed by those concerned with maintaining the fiscal health of the Port. Finally, we considered the impact of the project from a citywide perspective.

### A. The Investor's Perspective

The architectural firm of Skidmore, Owings & Merrill has done a considerable amount of work on a complex to be located approximately between the south of Pier 14 and the Bay Bridge. The complex would rest on a 550,000 square foot platform to be built beyond the waterfront line. The platform would be built over a water area that now is covered by 650,000 square feet of piers. However, the plans for the project are not detailed and the concept of the project is not yet fixed. Table 1 lists the principal components of the presently contemplated complex as we understand them from conversations with the architects.

Table 1

Principal Components of U.S. Steel Complex

| Use | Estimated Rentable Area | Estimated Gross Area |
|---|---|---|
| Office Tower | 850,000 sq. ft. | 1,024,000 sq. ft. |
| Hotel | 1,000 rooms | |
| Shops in Tower Building | 179,200 sq. ft. | 224,000 sq. ft. |
| Offices in Tower Building | 420,000 sq. ft. | 525,000 sq. ft. |
| Passenger Terminal | 0 | 180,000 sq. ft. |
| Shops and Commercial Space in Terminal Structure | 140,800 sq. ft. | 176,000 sq. ft. |
| Plaza and Street on Both Levels | | 491,000 sq. ft. |
| Parking Beneath First Level of Platform | 2,000 car spaces | |

It is important to note that the floor area ratio (building to platform) is 5:1 if one ignores the under-platform parking, and 7:1 if one includes the parking. Thus, from the viewpoint of an investor the project itself is not particularly building intensive in spite of the fact that he must pay approximately $20.00 per square foot in order to build the platform. Our use of a computer cash flow investment decision model to analyze the financial impact of changes in the make-up of this project suggested that the investor's desire for the right to build a tall building is not primarily motivated by the frequently encountered desire to spread his land (or in this case, platforms) costs over as many square feet of rentable space as possible. Instead, our analysis of the U.S. Steel project suggests a reason for the investor's desire for height that is related to the scale of the project and its particular location.

To be financially successful the project must be "carried" by the rental income brought in primarily by the hotel and office uses. If the rents to be charged by these uses were in line with the area's present market image the project would lose money. The selected location is not an accepted prestige office area. It is in an area where, for example, even modern office structures would find it difficult to rent space for more than $6.75 per square foot. But, our analysis suggests that the 1,200,000 square feet of net rentable office space

included in the tower and lower office buildings would have to be marketed from between $9.00 and $12.50 per square foot per year if the investor is to earn an adequate return. Hotel rents will have to approximate $35.00 per room. Furthermore, the financial impact of cutting down on the size of the platform to save some costs would not permit a significant drop in rents required for profitability.

Thus, the investor has to build a project that will create a new recognition and image for the location if he is to obtain the office and hotel rents required to make his project earn an adequate return. That is what the present scheme seeks to do. The tower will be easier to market at high rents because of its height and relatively desirable size per floor. Each floor of the proposed tower building is about 25,000 square feet. It is generally easier to find single tenants that will rent a whole floor in this size range than for much smaller or much larger floors. But, most important of all, a high tower would provide magnificent water views that would help in an attempt to get the needed premium rents.

The scale of the project is also tied to the present image of the location. Dramatic reductions in the scale of the project at its present site, and at this time, would do more than merely reduce the rents that the investor can pay for the use of the water he is building over. It would also raise the possibility that the project would have insufficient critical mass to attract tenants of the type that rent in San Francisco's present premium office locations.

From an investor's point of view, the passenger terminal also adds luster to his project even though it earns him no revenues. Thus, he spends at least $5,000,000 to build the passenger terminal partially to please the Port, but also to make his project more exciting.

From the investor's viewpoint, the present project is a risky investment that needs height and scale to alter the present character of the site and make it desirable for major corporate tenants. If built today, as presently planned, it would require an investment in excess of $140,000,000.

## B. The Port's Perspective

By law and historic tradition, the Port Commission and staff have long viewed the development of property not

needed for shipping as a source of revenues to build needed shipping facilities elsewhere. A September, 1966, report to the State-owned Port Authority cited the need for large investments in new cargo facilities to be developed south of China Basin and stated, "The Port will have to develop additional revenue from non-wharfage activities in order to maintain the financial strength needed to develop the new facilities, while continuing its policy of financial self-sufficiency".(1)

The report went on to pinpoint areas of the northern waterfront to be redeveloped in order to generate added rental revenues to the Port in a manner similar to the way that Fisherman's Wharf had been developed to generate rental revenues for the Port Authority. The report said, "We recommend the intensive development of the area north of Pier 35 under a planned redevelopment program".(2) It also said, "We recommend the area south of Pier 1 be gradually developed to include the space currently occupied by Piers 14, 16, 18, 20, 22. This development must be sparked off by the provision of a garage; the location of a heliport, preferably on the outer edge of the proposed BART platform on Pier 14; and possibly, an office building near the Ferry Building".(3)

The State Legislature that commissioned this study had indicated clearly that the primary purpose of redeveloping land formerly used for waterborne commerce into land-oriented uses was to raise funds for the development of cargo facilities elsewhere. The amendment to the State's Harbors and Navigation Code that lead to the study said, "The zoning ordinances of the city shall be based on the precise plans and permit the authority to use the property so as to yield maximum profits consistent with the pattern of land uses in the vicinity of the land so zoned".

The need to maximize the rents that could be obtained from non-shipping use of the waterfront seemed further confirmed by the Burton Act which said, "Such lease or

(1) Arthur D. Little, "The Port of San Francisco, An In-Depth Study of Its Impact on the City, Its Economic Future, the Potential of Its Northern Waterfront", P. 2.

(2) Ibid., P. 2.

(3) Ibid., P. 3.

leases, franchises, permits, licenses, and privileges shall be for purposes consistent with the trusts upon which the lands are held by the state and with the requirements of commerce and navigation, or if the Harbor Commission of the City and County of San Francisco determines that any portion of the transferred lands is not required for the foregoing uses described in this section, such lease or leases, franchises, permits, licenses, and privileges, may be for the purposes of such development and use as the commission finds will yield maximum profits to be used by the commission in the furtherance of commerce and navigation".

Therefore, while the Port Commission is not unmindful of the aesthetics of any real estate proposal it receives, it must favor uses that can generate relatively large rents. The U.S. Steel project as it is presently conceptualized will pay the Port at least $400,000 in rents. The chances of this rental amount shrinking increases with every drop in the allowable height. Thus, since the Port Commission does not feel the proposed U.S. Steel project is unaesthetic, it does favor allowing the construction of a tower that may climb to 550 feet.

### C. The Citywide Perspective

The economic ecology of San Francisco and the Bay would be harmed if the Port fails to provide needed modern cargo-handling facilities. Therefore, those who take a citywide view may automatically favor the 550-foot height limit if they look upon the rents of the proposed project as being the only possible source of the funds needed to back the financing of needed modern cargo facilities. But, as we shall discuss elsewhere in this Appendix, the rents from the U.S. Steel project will not be big enough to single-handedly back the bonds needed to finance new cargo facilities. Also, the project may bring in rents subsequent to the time that the facilities should be constructed. Furthermore, there is nothing obviously sacrosanct about the concept that exclusively ties the fiscal needs of shipping development to the rentals of non-shipping waterfront development.

Another citywide view of the project may consider the property tax receipts that would flow into the City Treasury at the completion of this project. If built as presently conceptualized, the complex would most probably pay between $3,000,000 and $4,000,000 in property taxes. However, these taxes and the investment returns of those who provide the needed risk capital must be paid

from the rentals of those who occupy the building. The same is true of commercial real estate ventures at other locations in San Francisco and since the City collects property taxes on all the private property within its boundaries, the economic benefits it receives from any one location cannot be calculated by merely looking at that one location.

Economists have long recognized the fallacy of judging the economic benefits that accrue to an entire system (the city as a whole) by looking only at what is happening to a single element of the system (the U.S. Steel location). The jargon that economists use to describe this illogical approach to making economic deductions is the "fallacy of composition". To avoid it, an analysis of the proposed project's tax benefit must, at a minimum, consider the long-run impact of the project upon the demand for commercial space in San Francisco. Office buildings, hotels and other real estate improvements paid for by their users respond to the demands of those seeking office, hotel or other services in San Francisco. If a waterfront development causes an increase in total demand by having a uniquely beneficial impact upon the city as a whole then it adds to the total value of San Francisco real estate by the amount of new demand it induces. However, the provision of a new improvement that brings demand from one location in the city to a waterfront location merely shifts values without producing any increase to the total.

A rather detailed study of the Bay Region's service economy would be required to provide the information and analytical framework that would permit the accurate forecasting of the impact that specified projects at particular locations would have on the space-demanding service industries of San Francisco. Such a study was not attempted within the eight weeks of research conducted here by Gruen Gruen + Associates. However, the downtown zoning study completed in December of 1966 does have very important implications for anyone considering the long-run impact that the proposed U.S. Steel project will have on the demand for commercial services.

That City-financed study called for a concentrated downtown. The Board of Supervisors accepted this objective or principle by implication when they enacted the downtown zoning proposal in May of 1968. The Bolles' report reenforced this objective, as did the City Master Plan amendment adopted in June of 1969. The plan suggested height and other restrictions on the land north of China Basin. One purpose for these height restrictions was a

desire on the part of the City's planners to keep San Francisco's downtown concentrated in its present location as long as possible.

A careful reading of the planners' writings suggests that they believe San Francisco's downtown development should not leap quickly to such streets as Howard and Folsom. The scale and character of the presently proposed U.S. Steel complex would tend to pull downtown development toward it. While the existence of the freeway may have some dampening effect on the ability of this project to grace the nearby streets with a marketable aura of downtown type prestige, it would pull the downtown toward it. Therefore, if the planners who wrote the downtown zoning study, the Bolles' plan and the City Master Plan are correct in their belief in the benefits of a concentrated downtown, then the property taxes that would be paid if the U.S. Steel project were completed very soon would be offset and perhaps eventually overshadowed by losses from the taxes of buildings that would otherwise capture future demand in the present downtown core area.

Another factor that must be considered in evaluating the economic benefits that would be provided by the proposed project is the fact that the site would have some commercial use in future years, even if the scale and value of the presently conceptualized project were diminished by imposed height restrictions. As the allowable height is lowered a point will be reached beyond which the entire character of the project would be altered and/or its construction deferred. However, we believe that the site could still be used for some type of successful commercial development, though perhaps not as quickly, even if the height limit that allows a maximum of 175 feet of construction over 10% of the area were imposed. Thus, the present value of the future taxes that such a smaller scale use of the site would generate should be considered as a reduction from the loss of the tax dollars the present proposal suggests will be forthcoming.

Finally, timing must be considered by anyone wishing to take a citywide perspective in evaluating the impact of the proposed project. There is a possibility that the project would be built soon if a height limit close to the requested 550 feet were approved. We say "possibility" instead of "certainty" because the representatives of the developers that we have talked with all agree that their own financial analysis of the project is not yet complete. In fact, one reason they seek a ruling on the height issue now is that the financial and engineering analyses yet to

be conducted will be expensive. They understandably hesitate to put out money for such things as the testing of subaqueous soil conditions and further architectural work before they know how high their buildings will be allowed to rise.

Nevertheless, the development agreement they have negotiated with the Port does suggest the liklihood that they will build a project similar to the one now conceptualized in the near future. Therefore, if they build, the City would start receiving the $3,000,000 to $4,000,000 in added taxes soon. This would amount to an approximate 1/2 of 1% increase of the City's total 1970 receipts.

In contrast to this possible "bird in the hand", the liklihood of another huge and immediate spurt in office and hotel construction is not great. In recent years San Francisco has seen the addition and plans for the addition to its hotel and office inventory that exceed the additional demand generated by office employment and hotel room seekers. Thus, overall vacancies will be relatively high when the buildings presently under construction and in the final stages of planning are completed. This will probably mean that construction activities may slacken off for a year or more as the developers of large new projects wait for vacanies to fall. It is possible that the U.S. Steel project could postpone the temporary slowdown in office construction that will occur as office demand catches up with supply.

## II. The Economics of Non-Shipping Waterfront Development

### A. Property Available for Non-Shipping Development

A review of Port-owned property suggests that very little of the area that could be developed for non-shipping uses is on dry land. Table 2 lists the location and amount of dry land owned by the Port, along with the piers that might be available for development now or in the future.

Table 2

Area of Port-Owned Dry Land and Selected Piers

| | Square Feet | Acres |
|---|---|---|
| All seawall lots | 11,278,475 | 259 |
| Seawall lots south of Folsom Street | 10,576,957 | 243 |
| Seawall lots north of Folsom Street | 701,518 | 16 |
| Seawall lots potentially available for future non-Port-related uses | 461,476 | 10.5 |
| Seawall lots which will be occupied by future public improvements | 84,478 | 2 |
| Piers 43, 45, Hyde Street Pier and 550 feet along the Embarcadero | 718,850 | 16.5 |
| Piers 37 and 39 | 324,600 | 7.5 |
| Piers 1, 3, 5 and 7 | 403,100 | 9 |

The Port owns approximately 259 acres of dry land on seawall lots. But 243 of these acres are south of Folsom Street zoned for industrial uses. This figure includes the approximate 160 acres to the north of the LASH facility which are on Seawall Lots 344 and 352, and the approximate 33 acres of the present Port Alvord property on Seawall Lot 349. This acreage, and the balance of seawall lot property south of Folsom Street, is presently being used for shipping and industrial activities. The progress of proposed Port improvements will affect the future development of this acreage. However, it is difficult to estimate the timing of new development and how much of it can be counted to fit into the category of non-cargo-related use.

The seawall lots north of Folsom Street are zoned C-2 and 3 and contain approximately 701,518 square feet (16 acres). This figure does not include the approximate 424,257 square feet of floor area in the Ferry Building, the World Trade Center, the Agriculture Building or some land under the Embarcadero Freeway leased to Greyhound and for parking. With the exception of undeterminable small bits, the acreage is currently in use and not readily available for redevelopment.

Even if it were possible to leap to a point in time when the Master Plan Amendment for the Northern Waterfront would be implemented, the picture does not change

remarkably. With the Master Plan in operation, it might be possible to earmark approximately 461,476 square feet of land on seawall lots (10-1/2 acres) as being potentially available for redevelopment. But two of these acres would be used by the Embarcadero Parkway called for in the Master Plan.

Furthermore, most of these 10-1/2 acres are now being used by the Belt Line railroad. To make them available the Belt Railroad will have to relocate the switching area, consolidating yards and roundhouse. The rail slip on Pier 43 would also have to be relocated. None of these relocations would be cheaply or easily accomplished.

Thus, most of the property that the Port controls and can make available for development is over the water and under the control of the Bay Conservation and Development Commission. The City's Master Plan recognized the need to use over-the-water development. It called for non-shipping development to be included in the area now covered by Piers 37, 39, 43 and 45, the eastern half of the Hyde Street Pier and 550 feet of theEmbarcadero between Powell and Kearny Streets. This area amounts to a total of 24 acres. Pier 45 constitutes slightly over 10 acres of this amount. The development of Piers 1, 3, 5 and 7 would add another 9 acres to this potential developmental area.

## B. The Financial Implications of Building on Platforms in Conformity with Northern Waterfront Height and Use Restrictions

Since most of the development potential that exists would involve building over water and platforms, we have tried to get a preliminary understanding of the alternatives that confront an investor in such development. We have tried to take a general look at the relationship between building area and platform area as these relationships affect the "land rents" that could be paid by different building types constructed on the platform. To do this, we programmed a computer using a cash flow real estate investment model to do the following:

1. If the assumptions concerning the use generated a true internal rate of return on invested equity that was less than 12% over a 20-year period the program merely prints out the indicated return.

2. If the assumptions fed into the computer generate a return that would be in excess of 12% then the

computer recalculated the figures to add operating costs to the project until the return was 12%. These operating costs are equal to the "land rents" that could be paid by an investor who earns 12% on the project as it is described by the assumptions fed into the computer.

This approach gives us a good initial feel for the basic relationships that are operating to motivate real estate investors who contemplate putting up their own money to build on platforms. However, the results displayed in Chart I must be evaluated very carefully because the assumptions used in setting up the large number of alternatives may have to be rechecked and will, of course, vary over time with changes in the market for the various uses, the availability of money, and a host of factors that will be specific to a particular project.

Furthermore, it should be realized that the obtainable rent that can be charged at any one point in time will vary more than any other single aspect of the real estate investment because it is a residual. That is, the amount the project can pay in land rents (or really, in this case, platform rents) is what is left over after one has paid for his mortgage money, construction costs, taxes, operating costs and a return on his own investment. The variable nature of the rents that one can pay can be exemplified by considering the return factor. In these simulations we have always assumed that an investor must get an annual return of 12% after taxes from the cash flows and residual values generated by the project. Now many prosperous investors consistently invest in projects that project out to provide them with less than that on a constant dollar basis. They do this because they know that inflation will work to make their actual return go much higher than that suggested by the constant dollar projection. When one considers that in September, 1970, our economy was operating at an annual inflationary rate of 6.2%, one can see the possible added value of real estate as an inflationary hedge.

Chart I presents the results of the initial set of simulations we made of office, hotel and residential uses of a platform at 3:1, 5:1, 10:1 and 16:1 building to platform area ratios. In each case, we used these initial assumptions to calculate the return first by assuming the investor had no "offset" - that is, he did not take tax losses against other income and credit the reduced tax payments against this project. Secondly, we assumed an offset so that the project benefited his overall tax situation - in the real estate jargon, this is usually

referred to as "selling the depreciation". The following are some general inferences that seem to be suggested by these preliminary runs:

1. Offices - The assumed rent of $9.00 per net leasable square foot was used as it was fairly apparent that lower rents cannot provide an adequate return except under unusual circumstances, given the $20.00 per square foot platform cost estimates, the $32.00 per

| Use | Assumed Rent/ Unit | As Co Co Un |
|---|---|---|
| Office Bldg. No Parking | $<br>9.00 | 32 |
| Office Bldg. with Parking | 9.00 | 32<br>ga |
| Office Bldg. No Parking | 9.00 | 32 |
| Office Bldg. with Parking | 9.00 | 32<br>ga |
| Office Bldg. No Parking | 9.00 | 32 |
| Office Bldg. with Parking | 9.00 | 32<br>ga |
| Office Bldg. No Parking | 9.00 | 32 |
| Office Bldg. with Parking | 9.00 | 32<br>ga |
| Hotel No Parking | | |
| Hotel with Parking | | |
| Hotel No Parking | | |
| Hotel with Parking | | |
| Hotel No Parking | | |
| Hotel with Parking | | |

Table 3

Simulations of Alternative Uses of 100,000 Square Feet of Platform Built at $20.00 per Square Foot

| Use | Assumed Rent/ Unit | Assumed Constr. Costs/ Unit | Gross Bldg. Area | Platform Area | Bldg. to Platform Ratio | No. of Rentable Units | R.O.I. with No Offset | Total "Land" Rent | Rent/ sq.ft. of Platform | R.O.I. with Offset | Total "Land" Rent | Rent/ sq.ft. of Platform |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | $ | $ | sq.ft. | sq.ft. | | sq.ft. | % | | $ | % | | $ |
| Office Bldg. No Parking | 9.00 | 32.00 | 300,000 | 100,000 | 3:1 | 249,000 | 7.0 | 0 | | 9.5 | | |
| Office Bldg. with Parking | 9.00 | 32.00+ garage | Office 300,000 | 100,000 | 3:1 | 249,000 | 3.4 | 0 | | 6.9 | | |
| Office Bldg. No Parking | 9.00 | 32.00 | 500,000 | 100,000 | 5:1 | 415,000 | 9.9 | 0 | | 12.0 | 2,355 | .023 |
| Office Bldg. with Parking | 9.00 | 32.00+ garage | 500,000 | 100,000 | 5:1 | 415,000 | 6.0 | 0 | | 9.0 | | |
| Office Bldg. No Parking | 9.00 | 32.00 | 1,000,000 | 100,000 | 16:1 | 830,000 | 12.2 | 15,000 | 1.50 | 12.0 | 232,660 | 2.326 |
| Office Bldg. with Parking | 9.00 | 32.00+ garage | 1,000,000 | 100,000 | 10:1 | 830,000 | 8.1 | 0 | | 10.4 | 0 | |
| Office Bldg. No Parking | 9.00 | 32.00 | 1,600,000 | 100,000 | 16:1 | 1,000,000 | 12.0 | 161,000 | 1.61 | 12.0 | 393,326 | 3.93 |
| Office Bldg. with Parking | 9.00 | 32.00+ garage | 1,600,000 | 100,000 | 16:1 | 1,000,000 | 8.8 | | | 10.7 | 0 | |
| Hotel No Parking | | | | | 3:1 | | 4.9 | | | 7.7 | | |
| Hotel with Parking | | | | | 3:1 | | 1.6 | | | 5.6 | | |
| Hotel No Parking | | | | | 5:1 | | 8.7 | | | 10.7 | | |
| Hotel with Parking | | | | | 5:1 | | 5.0 | | | 8.4 | | |
| Hotel No Parking | | | | | 10:1 | | 11.8 | | | 12.0+ | 113,989 | 1.14 |
| Hotel with Parking | | | | | 10:1 | | 7.6 | | | 10.5 | | |

referred to as "selling the depreciation". The following are some general inferences that seem to be suggested by these preliminary runs:

1. Offices - The assumed rent of $9.00 per net leasable square foot was used as it was fairly apparent that lower rents cannot provide an adequate return except under unusual circumstances, given the $20.00 per square foot platform cost estimates, the $32.00 per

| Use | Assumed Rent/ Unit | As Co Co Un |
|---|---|---|
| Hotel No Parking | | |
| Hotel with Parking @ U.S.Steel Cost | | |
| Luxury Remodeled Residential | 600/ month | 18 sq |
| Luxury Remodeled Residential | 600/ month | 18 sq |
| Luxury Remodeled Residential | 600/ month | 18 sq |
| Luxury New Residential | 600/ month | 28 sq |
| Luxury New Residential | 600/ month | 28 sq |
| Luxury New Residential | 600/ month | 28 sq |
| Luxury New Residential | 600/ month | 28 sq |

General Assumptio

1. 30-year mo
2. Project fi
3. One point

## Table 3

### Simulations of Alternative Uses of 100,000 Square Feet of Platform Built at $20.00 per Square Foot

| Use | Assumed Rent/ Unit | Assumed Constr. Costs/ Unit | Gross Bldg.Area | Platform Area | Bldg. to Platform Ratio | No. of Rentable Units | R.O.I. with No Offset | Total "Land" Rent | Rent/ sq.ft. of Platform | R.O.I. with Offset | Total "Land" Rent | Rent/ sq.ft. of Platform |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Hotel No Parking | | | | | 16:1 | | 12.0 | 94,000 | | 12.0 | 331,586 | 3.32 |
| Hotel with Parking @ U.S.Steel Cost | | | | | 16:1 | | 8.7 | | | 11.2 | | |
| Luxury Remodeled Residential | 600/ month | 18.00/ sq.ft. | | | 3:1 | 1,000 sq.ft. apts. | | | | 12.0 | 224,666 | 2.24 |
| Luxury Remodeled Residential | 600/ month | 18.00/ sq.ft. | | | 5:1 | 1,000 sq.ft. apts. | | | | 12.0 | 542,263 | 5.42 |
| Luxury Remodeled Residential | 600/ month | 18.00/ sq.ft. | | | 10:1 | 1,000 sq.ft. apts. | | | | 12.0 | 1,333,577 | 13.33 |
| Luxury New Residential | 600/ month | 28.00/ sq.ft. | | | 3:1 | 1,000 sq.ft. apts. | 4.2 | | | | | |
| Luxury New Residential | 600/ month | 28.00/ sq.ft. | | | 5:1 | 1,000 sq.ft. apts. | 8.5 | | | | | |
| Luxury New Residential | 600/ month | 28.00 sq.ft. | | | 10:1 | 1,000 sq.ft. apts. | 12.0 | 10,000 | .10 | | | |
| Luxury New Residential | 600/ month | 28.00 sq.ft. | | | 16:1 | 1,000 sq.ft. apts. | 12.0 | 147,000 | 1.47 | | | |

General Assumptions:

1. 30-year mortgage @ 10%.
2. Project financed with 85% mortgage.
3. One point financing.

referred to as "selling the depreciation". The following are some general inferences that seem to be suggested by these preliminary runs:

1. Offices - The assumed rent of $9.00 per net leasable square foot was used as it was fairly apparent that lower rents cannot provide an adequate return except under unusual circumstances, given the $20.00 per square foot platform cost estimates, the $32.00 per gross square foot building construction cost and the indicated present cost of money. Under the stipulated circumstance, no "land rents" were obtainable until the floor area to platform area reached the 5:1 ratio. Acceptable returns (say above 8%) were possible under the 3:1 ratio only under the assumption that the investor could offset other income and no garage was built.

   The parking assumption that we build a parking slot for every 1,000 square feet of office at the underwater cost of $8,000 per slot hurt all the cases very much. At such high parking costs we had to go to 16:1 before an acceptable return was possible. While the estimate of $8,000 per slot is a high figure, this finding does point to the advantage that could be gained if platform development were meshed with land-based parking, and the economic problem that is associated with providing parking in the manner suggested by the U.S. Steel proposal. This problem may be partially solved if the parking belts suggested in the Department of City Planning's plans for the area are instituted. There is a belt suggested between Mission and Folsom and Steward and Second, but these are not on Port property.

   Under the assumptions made here, no rents accrued to the Port until the platform to building area ratios exceeded 5:1.

2. Hotels - The hotel analysis was based on a rent of $35.00 for therooms but a profit split that assumed it was not operated by the investor. Once again, the parking hurt the project and no sizable returns were made until the platform to building area exceeded 5:1. Land rents climbed dramatically with increases in the ratio. We did not consider the possibility of a less expensively built motel.

3. Residential - The residential assumptions we used may be totally unrealistic but they do serve to illustrate the manner in which construction costs

impact the platform to building ratio. When we postulated a remodeling effort that would produce 1,000 square feet to rent for the very high rent of $600 per month then rents started being generated even at the 3:1 ratio. Conversely, the ratio must go well above 5:1 when we postulate construction costs at $28.00 per square foot. It was obvious that no low or moderate income housing could be built on the platforms unless a very large subsidy was forthcoming from other sources. The amount of required subsidy would be much larger than that provided by current government programs for low and moderate income housing.

While none of these numbers should be taken as final generalizations, they do suggest the kind of pressures that would-be investors are under. If they desire to leave significant amounts of open space on the platforms they pay for, then the 40-foot height limit will make them get out their sharpest cost-cutting pencil and/or turn to look for high rent paying uses such as restaurants. They get more breathing room when they go to an 84-foot limit but even this is tight given today's high interest charges and construction costs.

If the area is to be privately developed in conformity with the objectives of the City's Master Plan it will be done carefully and take place relatively slowly or heavily sacrifice future dollars to get immediate returns and construction. This is true because of the need for high rents to permit amortization of the platform costs, provide for investors' returns, and pay for the amenities that both the Master Plan and good marketing strategy dictate as necessary. If the entire waterfront were developed quickly the amount of space put on the market in a short period of time could cause the rents to drop below the required minimum. To put this matter in other words, one could say that the waterfront development will have to take the cream off all the rental market it seeks to capture and there is a limit to the amount of cream available in a given year.

The pressures upon the Port to develop backing for its needed financing are immediate. Unless these pressures are relieved it will be difficult for the Port to program development of the entire waterfront in the relatively slow and careful manner called for by the economics of the situation. A time-phased development program that could provide the recreational and other objectives of the Master Plan would also have to be executed carefully

with consideration given to a flexible selection of uses and the concentrating of these uses in attractive packages that expand gradually. The recent rulings of the Bay Conservation and Development Commission would seem to prohibit any such programming. The City will need at least all the flexibility that BCDC gives the areas of private property, and perhaps more. The present BCDC restrictions do not permit non-shipping development of the waterfront into the recreational, commercial and other uses envisioned by the Master Plan.

### C. The Unique Potential "For Conflict" Over Waterfront Development Decisions

Decisions concerning waterfront development are particularly difficult because of the powerful effect that each structure has on the development of the City as a whole and on the potential development of other waterfront sites.

One example of this is that the developer of any particular site maximizes the value of his site by building high so as to fully exploit the view monopoly the site's location makes possible. However, high development does tend to restrict the view potential from other inland and waterfront sites. The full use of a site also obstructs public use.

Another factor is that because of the uniqueness of the waterfront it tends to be a powerful lever to guide the real estate development path of the downtown area. The opposition to the proposed U.S. Steel complex on the grounds that it will tend to spread out the area used by prestige office buildings is an example of this problem.

The resolution of these conflicts requires more than just a plan. It requires a positive development program. Decisions about such a program will be influenced by the nature of the organizations making these decisions. They will also tend to be influenced by the motivations that arise from legislation concerning how the revenues paid by profitable developments are to be spent.

## III. The Financial Need Generated by the Economic Need for More Cargo-Handling Facilities

### A. The Impact of the Container Revolution

In fiscal 1970 the Port of San Francisco accounted for 39% of the revenue tons of cargo that came in ships

passing under the Golden Gate. Thus, while the Port of San Francisco has lost the overwhelming general cargo tonnage leadership it once had, it still continues to be a very powerful force in the complex of Bay Area ports. But, it has lost its dominance of Bay Area general cargo very recently, as the Port of Oakland responded more quickly to the revolution in steamship technology that is now taking place.

Oakland's phenominal growth is largely due to its rapid acceptance and exploitation of the technological shift to container shipping.

There are two main reasons why San Francisco was slower to respond to containerization than Oakland:

1. Since it had a large existing base there was no need to attempt to introduce innovation in order to take cargo away from someone else. Amsterdam had no reason to completely alter its facilities like Rotterdam which was bombed out by the Germans. Thus, it stayed with the conventional cargo technology as did the great majority of all steamship companies until recently. Oakland was not bombed but it had relatively little to start with except lots of land so it took a gamble in the direction of containerization. That gamble is paying off handsomely.

2. The problems of financing innovation are extremely difficult for San Francisco because they carry a relatively heavy existing debt structure. That is, the $50,000,000 in general obligation bonds they owe now was used to build modern desirable facilities that were not especially designed for use by container ships. Furthermore, shifts to containerization would frequently result in no new business since existing customers would merely alter their use from old to new wharves. This was not the case for Oakland which could go after business that was all new and not worry about having this shift of old customers to new facilities. They received financial support from the Federal Economic Development Administration because Oakland has high unemployment.

While San Francisco has not built the large container facilities that have been so rewarding to the cargo attracting ability of Oakland, it has not stood idly by and watched its customers leave. In fact, the bulk of the Port's tenants have stayed even though they must pay rental charges not collected by other ports. The Port

has modernized some of its older facilities and, of course, does have the large new Army Street terminal in operation now. But, it must build new facilities if it wishes to keep its tenants. The land for these new facilities is under Port control including the 230-acre India Basin property now being partially used to construct the first lighter aboard ship terminal to be built in the West.

The new LASH facility is leased to Pacific Far East Lines, Inc. This shipping company is making a huge investment in ships of a new type. If this further innovation to the container concept is successful, the Port should get back a significant portion of the tonnage it has lost. But, the Port cannot stop here if it wishes to remain competitive. It must also build at least one large container facility or lose tenants. There is a gamble involved in building the added facilities needed to keep San Francisco a viable Port. The risks involved in building more facilities now stem from the following factors:

1. It is argued that Oakland has a "natural" advantage by being closer to some rail heads which offsets the advantage San Francisco has by being closer to shippers and other decision-makers such as insurance and financial centers.

2. Oakland has captured the major container lines. If these lines capture more volume it may be at the expense of the slower to use container lines now operating out of San Francisco. Furthermore, their being first in containers may be a competitive advantage.

3. San Francisco's greatest innovation, LASH, is not yet tested.

The consultant's analysis of these arguments leads him to conclude that San Francisco can remain a viable port, if it provides the needed facilities. However, a study of the strengths and weaknesses of all Bay Area ports would be very worthwhile. Such a study would permit a Bay-wide rationalization of facilities, institutions and cargo promotional activities so as to strengthen the Bay port complex.

## B. The Economic Need for More Facilities

While there is a financial risk in providing the facilities that today's tenants of the Port of San Francisco say they will use, there is also a great risk to the economy of the

entire Bay Area if the Port of San Francisco does not build more now.

The ability of the Port of San Francisco to continually attract the high value foreign general cargo that is and has been its uniquely important contribution to the economic ecology of San Francisco is also important to the entire Bay Area. There is evidence to suggest that the critical general cargo business does not just leave San Francisco and go to Oakland.

By 1965 Oakland's aggressive program of cargo facility development had brought it to the point where its total cargo by weight was for the first time equal to that of the Port of San Francisco, though its foreign general cargo volume was about half that of San Francisco. Since then its total volume and foreign general cargo volume have been growing much faster than San Francisco because the West Bay has not been able to keep pace with the rapidly changing cargo technology. But a breakdown of ports from the Corps of Engineers indicates that by 1968 there were already signs that indicated the entire Bay Area was getting a smaller share of the West Coast's general cargo trade.

General Cargo Shipments Through the
Bay Area and the Entire West Coast
(in millions of tons)

| | 1950 | 1955 | 1960 | 1965 | 1968 |
|---|---|---|---|---|---|
| Bay Area | 3,525 | 4,614 | 4,963 | 4,621 | 5,532 |
| West Coast | 29,327 | 36,300 | 45,524 | 37,998 | 53,675 |
| Bay Area % | 12 | 13 | 11 | 12 | 10 |

While this data is not conclusive, talks with steamship executives and others suggest that the whole Bay Area may suffer somewhat when San Francisco loses customers because it cannot provide modern facilities. Cargo diversions from Bay ports to Los Angeles and Seattle may be encouraged by the failure of San Francisco to follow an aggressive program of responding to technological changes.

As cargo began to shift between 1965 and now, the Bay Area's growth in the job-creating general cargo has been slower than the entire west coast's growth. There is a danger that San Francisco's loss of predominance will not only work to benefit Oakland but also encourage

diversions to Seattle and Los Angeles. While the Bay Area only increased its general cargo shipments by slightly over 10% between 1965 and 1968, the west coast increased its general cargo shipments by approximately 40% during this same period. Furthermore, in 1969 Seattle reported that its over-land common point cargo increased 25%. This is cargo coming in from overseas and being shipped to the middle west and east coast. That same year the Seattle Port District produced $7,647,000 for the Port's use from their property tax.

The investment that Seattle has been making in its Port has been paying off. The Seattle economy was hard hit this year by Boeing's layoffs, but economists were surprised that the slump was not greater than it was. The Port's activities were a major factor helping shore up the Seattle area economy. The economic impact of the Port of San Francisco is also great. A 1966 study by Arthur D. Little disclosed that about 23,000 Bay Area residents who work on the docks, in warehouses, in factories and in offices are employed at activities related directly to the cargo going over the Port's docks.

### C. The Financial Requirements of Maintaining A Viable Port in San Francisco

The consultant feels strongly that the Port should proceed quickly to expend $32,000,000 for a new 140-acre container terminal next to the LASH terminal. We have forecast the financial implications of building this terminal under alternative assumptions on the following tables.

Forecasts were also make for an expanded Port program which calls for the addition of another $47,000,000 container facility to be built after the $32,000,000 terminal is operational. However, we believe that the feasibility and need for this terminal should be reevaluated after we are able to gain more information as to the impact of the $32,000,000 expenditure. We also hope, as does the Port staff, that it may be possible to finance this additional facility on the strength of leases signed by substantial users prior to construction.

Furthermore, it would be desirable that a Bay Area-wide perspective be taken prior to any commitment over and above the presently needed $32,000,000.

The assumptions and nature of the forecasts that were made by Gruen Gruen + Associates are explained in the

letter to the Port's Comptroller that precedes the tables presenting the forecasts. A copy of the Comptroller's reply is also included (Pages 24 through 33).

The most critical assumptions underlying the forecast we believe most likely are as follows:

1. Shipping revenues will be $8,000,000 after completion of the new 140-acre container terminal. We estimate the completion date to be 1975, assuming construction starts in 1972.

2. Non-shipping revenues will increase at only 3% per annum over the 1970 base. This assumption takes inflation into consideration. No major new non-shipping activities such as office, commercial or recreational developments were considered in this estimate.

3. It was assumed that the entire $32,000 would be financed by 30-year, 5-1/2% general obligation bonds.

Under the above three assumptions the Port would face a total cash deficit of $18,600,000 between 1972 and 1983. Thereafter, the Port would be expected to show a cash surplus which by 1995 would equal the total amount of the first 11 years' deficit.

If 30-year, 7-1/4% revenue bonds were to be issued instead of general obligation bonds, then the deficit can be expected to continue for 2 more years at an additional total cost of $5,578,000.

## IV. The Passenger Terminal

### A. Forecast of Passenger Volume

We believe that by 1974 total passenger volume including the double-counting of in-transit visitors to leave and return to the ships will be between 60,000 and 90,000. We base these estimates on the following research conclusions:

1. American flag mixed-use vessels will continue to go out of business because, first, they are less economical than either strictly cruise or cargo-carrying vessels and, more important, they are not likely to continue to receive U.S. subsidies.

2. While foreign flag cruise ships are in the process

of being built to capitalize on the west coast demand, the number built in the next five to ten year period will tend to replace the lost capacity of the American flag vessels.

3. The increase in demand for west coast cruises can be primarily attributed to the availability of west coast routings, the availability of shorter trips (two to three weeks), the big population build-up in California, general increase in affluence including the extended paid vacation and the easy availability of credit.

4. Passenger terminals are not a vital factors influencing the number of passengers electing to take San Francisco based cruises. According to a sample of San Francisco travel agencies surveyed, the terminal, per se, is only a factor to disembarking tourists. The embarking tourist is eager to go directly on board, while the in-transit tourist is in a hurry to go sightseeing. Thus, it is the passenger who is waiting for his baggage or going through customs who notices his immediate surrounding. Even in this situation the waiting period may be more crucial than the environment. However, needless to say, the wait may appear less noticeable in a pleasant setting.

## B. Impact of the Passenger Terminal on the Economy

Assuming that our high 1974 estimate (90,000) turns out to be substantiated, some of these passengers are double-counted since the estimate includes in/out and in-transit figures. In addition, many are likely to be Greater Bay Area residents. Therefore, if we assume that 50,000 are tourists we are still talking about less than 2% of San Francisco's annual tourist base. Thus, the overall development of the waterfront is likely to impact tourism far more than a new passenger terminal.

## C. Revenue Projection and Alternative to a New Terminal

The total revenue produced in June 1969-June 1970 from Piers 35, 48 and 50 was $201,268. However, $135,969, or 67%, was comprised of wharfage or revenues derived from the mixed-use vessels using Piers 48 and 50. Since it is these vessels which are likely not to be here by 1974, the Port revenues will have to be derived from dockage charges and a head tax should one be approved by the Association of California Ports. Should dockage

revenues climb to $75,000 and a $1.00 head tax instituted, it would be possible for the Port to obtain revenues in the neighborhood of $225,000 per annum by 1974. If the head tax were not instituted then the Port would be likely to obtain less than $100,000 per annum.

A logical alternative to a new terminal would be the maintenance and slight improvement of the existing terminal at Pier 35. This might include an escalator or the partitioning enclosing the baggage area. To slightly improve and maintain this pier until 1990 would cost in the neighborhood of $1,600,000 to $2,000,000, or $80,000 to $100,000 per year.

## D. Civic Pride and Project Excitement

Two reasons for building a new passenger terminal would be the issue of civic pride or the desire to enhance a waterfront project. Should a new terminal be decided upon, perhaps consideration should be given to locating it to take advantage of the Marin County-San Francisco ferryboat commuters and other compatible uses.

November 30, 1970

Mr. John D. Yeomans
Comptroller
Port of San Francisco
Ferry Building
San Francisco, California 94111

Dear John:

In line with our discussions at the November 18 meeting of the Waterfront Committee, chaired by Mortimer Fleishhacker, this letter explains the methodology we used in making three forecasts of the amount of cash flow available for debt service under alternative cargo revenue assumptions. The two "B" forecasts assume the issuance of $32,000,000 in bonds to finance the development of a new, modern cargo facility to be completed in fiscal 1974. To finance it, $14,000,000 worth of bonds are issued in fiscal 1972; $14,000,000 in 1973; and $4,000,000 in 1974. We have then looked at the implications of issuing these bonds as revenue and G.O. bonds by preparing separate bond schedules for each. Finally, the "C" forecast assumes another $47,000,000 is spent to complete a second facility in 1977.

You will note that we have reversed ourselves and not made any attempt to forecast the situation that would develop if your new cargo facility program stopped with the completion of the LASH terminal. As Miss Wolff pointed out, such an alternative is clearly not consistent with the maintenance of San Francisco as a major port. It would signal a loss of confidence that might well encourage some carriers to look for other arrangements now before they found themselves no longer properly served.

I have tried to write this request for your comments, suggestions and corrections as a semi-questionnaire so that you can make your remarks right on this writing. Even if there is not enough space, I would appreciate any comments you or other Port officials are willing to make so that we can pool our knowledge to make good forecasts in the face of rapid technological change.

## I. General Format of the Cash Available for Debt Service Forecasts and Derivation of 1970 Estimates

Tables I, VII and XI use the following classification of outgo and revenue items:

### Column 1 - Estimated Cargo Revenue

To get the figure for 1970 we deducted 778,450 from the tab listing of 2,411,411 for cargo rentals, as the former rentals were for storage and other ".06 per square foot items" that were not cargo-related; this gave us a figure of 1.632,961. To this we added the dockage, wharfage and demurrage figures appearing on the June 30, 1970 income statement.

### Column 2 - Estimated Non-Cargo Revenue

For 1970 we took the tab run and added 778,450. Since the totals of (1) and (2) for 1970 are within 30,000 of the income statement for 1970, we thought this close enough.

### Column 3 - Net Belt Railroad Revenue

We thought that since it is possible to forecast this item separately we should not throw its expenses and receipts into other columns but simply make a net forecast each year. The 1970 figure was taken from the income statement.

### Column 4 - Estimated Non-Operating Revenue

1970 from income statement.

### Column 5 - Total Revenue

Columns (1) + (2) + (3) + (4)

### Column 6 - Estimated Maintenance Expenses

1970 from income statement.

### Column 7 - Estimated Operating Expenses

1970 from income statement.

### Column 8 - Estimated Miscellaneous Expenses

1970 from income statement.

### Column 9 - Estimated Improvements, Reconstruction, Replacement

We understand that items like the purchase of cranes and the widening of existing aprons are not classified as maintenance. The 1970 figure was taken from your projection of cash flow dated 10/14/70.

### Column 10 - Total Cash Outflow

Columns (6) + (7) + (8) + (9)

### Column 11 - Net Available for Debt Service

Column (5) - (10)

### Question 1

Are there any major items not includable in our categories?

Yes

No

### Question 2

If our estimate of 1970 cash flow is correct there was a cash deficit of $2,638,000 and even if this is somewhat off it does not appear likely that the flow was positive. Therefore, you must have used cash available in capital accounts from previous years. Is there any more cash available to meet future cash deficits?

How much?

## II. Explanation of Cargo Revenue Forecasts

We have made three basic cargo forecasts. The first two (Tables I and VII) were, and should be, given the most attention as they attempt to forecast the future courses of the Port's finances in the year preceding and following the construction of a new 140-acre facility next to the LASH area. We assume that the facility would respond to the needs of the latest cargo-loading technology.

The first forecast, $B_H$, is a high cargo revenue forecast that makes the optimistic assumption that no further cargo revenue will be lost to more modern facilities located elsewhere. If this "high forecast" should come true, it would reflect the success of the Port's present policy of reconstructing and re-equipping its older piers to make them suitable for use by tenants with ships that handle both containers and break bulk cargo. Thus, under these circumstances, the new facility would add new volume while the Port continues to handle the equivalent of its current cargo over the improved, but existing, piers.

The second, $B_L$, or low forecast, assumes a continuing loss of the cargo now being handled as shippers change their patterns and switch to partial or full container ships or as tenants elsewhere. Under this low or pessimistic cargo forecast we assume that the new facility merely stems losses by allowing carriers now using other piers to switch to this modern facility.

The third forecast, $C_H$, is somewhat academic in that it looks beyond the completion of this facility and takes what we consider an optimistic look at what would happen if another $47,000,000 were spent to add another major facility at the Alvord Grant property. We assume this would not be built unless things went well (the $B_H$ forecast) in the next years and unless the construction would guarantee the addition of sizeable new cargo revenues.

The assumptions listed below were used to make the year-by-year forecasts shown in Tables I, II and III.

For 1971:

a. $250,000 was added to all forecasts and an estimate of the impact that the new grain terminal will make in its first year of operation.

b. The B "No Response to Containerization" forecast that we made in 1967 and is shown on Page 25 of the ADL report of that year predicted total cargo-related revenue of $5,810,000 in 1970. This is very close to the $5,646,031 actually received in 1970. This original forecast used a 3-1/2% per year loss rate in order to arrive at the predicted number. Therefore, we feel that a 3-1/2% per year deduction from the 1970 base is a realistic approach to making the present $B_L$ forecast for the cargo going over the piers before the new $32,000,000 facility is completed.

c. To all forecasts $50,000 was added to reflect the impact of the dockage increase as it impacts 1971. This is equal to only about a 10% increase even though the rate will climb 25%. We have chosen the lower number because we believe the de-escalation of the war will cause a decrease in the number of ships paying dockage even though they are not loading or unloading. Such ships include those waiting to get into the Oakland Army Terminal plus the C 2's and 3's taken out of mothballs on speculation and just being "parked".

For 1972:

a. We added the following to all forecasts:

| | |
|---|---|
| $ 500,000 | - grain terminal |
| 720,000 | - 1/2 year LASH operation |
| 680,508 | - wharfage increase |
| $1,900,508 | |

b. For the $B_H$ forecast only, we once again deducted the 3-1/2% from the remaining base.

For 1973:

a. We added the following to all forecasts:

$ 500,000 - grain terminal
1,440,000 - LASH
680,508 - wharfage increase
$2,620,508

b. Once again, we deducted 3-1/2% from the previous base for the $B_L$ forecast.

After 1973:

a. On the $B_H$ and C forecasts we assume a growth at 2% per year until $2,740,000 has been added to the 1973 base.

b. The $B_L$ forecast is increased until the total revenue reaches $8,000,000.

The C forecast starts adding an initial revenue of $3,000,000 in 1977; it then grows at 1-1/2% per year.

Before leaving room for any comments or suggestions you might want to make, I thought it might be worthwhile to mention why we have not put an inflation factor into the cargo revenue forecasts. It is because the rapidly changing technology of the shipping industry is working to keep ports from gaining inflationary benefits. Consider your 1967 wharfage increase - by 1970 total wharfage was back down to within $80,000 of the 1966 wharfage collection. Furthermore, the fact that San Francisco is the only west coast port to charge its tenants rentals may indicate that this is a desirable port, but it also suggests that increases in this charge will be difficult to make even in the face of inflation.

Question

Please make whatever comments you feel appropriate on the cargo revenue forecast methodology.

## III. Estimated Non-Cargo Revenues

In all these forecasts we have assumed the Port allows no more substantial new uses of its properties for non-cargo revenue. Thus, the only gain would be the gradual increase in rents that comes from inflation and the leasing of small pieces of property that become available on existing piers no longer being used for cargo or maintained in the year before they collapse and on dry land where such exist. We have assumed a 3% annual growth rate for the 1970 base.

## IV. Estimated Net Belt Line Railroad Revenue

We have assumed a drop in this outflow due to increasing charges and then a gradual increase.

## V. Estimated Non-Operating Revenues

We find this item particularly hard to estimate because damage settlements and interest income make up such a large proportion of it. Therefore, we have relied on the estimate of these items that you made in the bond prospectus for the $11,000,000. As we understand it, your forecast for these two items runs as follows:

| | Interest Income | Damage Settlement | Total |
|---|---|---|---|
| 1971 | 900,000 | 300,000 | 1,200,000 |
| 1972 | 500,000 | 300,000 | 800,000 |
| 1973 | 300,000 | 400,000 | 700,000 |
| 1974 | 200,000 | 400,000 | 600,000 |

In 1970 the total non-operating revenue received was $920,868 after deducting interest income and damage settlement. The forecast used in all cases escalates

this amount by about 3% per year and adds your estimates up to 1974 assuming they stay the same thereafter.

Question

Is this reasonable?

## VI. Estimated Maintenance Expense

I think Mr. Sembler can point with great pride to the estimate he made for me in 1966. Page 34 of the 1967 ADL report estimates a 1970 maintenance expenditure of $2,880,000. Your June 30 income statement lists actual expenditures of $2,910,000. The 1966 forecast was obtained after Gene and I carefully went over the facility program that was planned at that time; we have not done another schedule in this same manner. Instead, I have followed the advice of Miss Wolff's October 30 memo to me which suggested using the 1966 schedule with a cost escalation. I chose an escalation rate of 5% for years after 1970. In addition I have arbitrarily added $100,000 per year in the ten years that follow the construction of the $32,000,000 (Forecast B) facility to handle subsidence problems plus $50,000 for ten years after the Alvord development (Forecast C) to handle its subsidence problems.

However, we have not let this 5% increase go on forever. Instead, we have assumed the following:

1. Case $B_L$ - We have held maintenance constant after 1976 except for the subsidence allowance. This assumes that if most of the old piers are no longer used they need no longer be maintained.
2. Cash $B_H$ - The optimistic forecast holds maintenance constant after 1988 just as we have the cargo revenue. If cargo ceases to expand, older facilities may cease to be maintained.

## VII. Explanation of Estimated Operating Expenses

In recent years the Port of San Francisco has managed to hold down the growth of Port operations and administration expenses to a rate that is less than the nationwide inflation rate. We believe they will continue to do this and have estimated the growth of this outgo at 2-1/2% per annum on all forecasts.

Question

Reasonable?

## VIII. Estimated Miscellaneous Expenses

We really do not know what this amount is so we cannot reach any analytical conclusions. Thus, we have just put in a figure that is about the average for the last five years and held it constant.

Question

Is this a reasonable thing to do? Yes ☐ No ☐

If no, what would you recommend?

## IX. Explanation of Estimated Improvement, Reconstruction and Replacement

We have not attempted to make any detailed listing of the reconstructions, equipment purchases and major improvements that will be required in order to make existing cargo facilities usable by tenants as they adopt some of the new technology. We do suspect that at least two new cranes will be required in the near future and that a new locomotive may be required in the next five years, but we do not have a complete list. However, we suspect that the major expenditures will be required soon to keep tenants on older piers. Thus, we have considered this item only until 1976 and at a declining rate.

Question

Does this seem reasonable? Yes ☐ No ☐

If no, how should it be done?

X. Explanation of Debt Service Requirements

We have made up separate bond schedules for $32,000,000.

We have used Mr. Comfort's sheet of 11-11-70 to calculate the existing debt service, a term we have used to include the $9,000,000 not yet sold.

We have also made up a schedule for the $47,000,000.

Very truly yours,

Claude Gruen
Principal Economist

CG:ek

cc: Mr. Edward L. David, Port Facilities Manager
Mr. Mortimer Fleishhacker, Jr.
Mr. Cyril Magnin
Mr. Eugene Sembler, Chief Engineer
Miss Miriam E. Wolff, Port Director

PORT OF SAN FRANCISCO
FERRY BUILDING
CITY OF SAN FRANCISCO • JOSEPH L. ALIOTO, MAYOR
SAN FRANCISCO, CALIFORNIA 94111 • TEL.: (415) 391-8000

December 7, 1970

Dr. Claude Gruen
Gruen Gruen and Associates
111 Sutter Street
San Francisco, California 94104

Dear Claude:

This will acknowledge receipt of your Cash Flow Projections for the San Francisco Port Commission. In your letter of transmittal you have asked some questions and I will endeavor to give you my comments in connection with your economic projections first, and then answer those questions.

I feel it important that we set out our general comments in connection with your revenue projections. We realize that you have done a study which really requires tremendous detail in an unbelievably short time. Obviously you recognize that this is not the kind of analysis you could make were you given a longer period in which to make it. By the same token, this was delivered to us on December 2, 1970, and you wish our comments today. We are, therefore, not able to give this the kind of analysis we would like to give it.

Our initial reaction is that we feel your pessimistic assumption, which has a low cargo forecast, is far too pessimistic. Your first forecast, BH, the high cargo revenue forecast, is, we think, more realistic and much more nearly in line with our own forecasts. We hope for something even better than this because we at least have regarded our forecasts as conservative.

We think the $32,000,000 of further improvements through bond issues you recommend is realistic now; in fact all we can reasonably hope to accomplish now. There are $20,000,000,000 in new ships on order in the world's shipyards or just delivered. It should be clear therefore that we are in a critical re-evaluation period for our own needs and nothing stated here should preclude amendment in five to ten years.

Your first question is whether there are major items not includable in our categories. As far as I can tell from rather hasty review, there are not, but I would have to make a far more detailed analysis than time permits to verify this fact.

Question two deals with the cash deficit in the 1970 Cash Flow, and whether additional cash is available to meet future cash deficits. On June 30, 1969, we had more than $10,000,000 surplus in our Harbor Improvement Fund, of which $7,300,000 was transferred to finance the start of the LASH Terminal. Approximately $3,000,000 of it was reserved to cover the deficit in the 1969-70 budget. When the $9,000,000 revenue bonds are sold, we will transfer as much of the $7,300,000 as we can back to our surplus. This will then give us a cushion for possible future deficits.

Comments on cargo revenue forecast methodology:
I do not agree with your 3-1/2% per year deduction from the 1970 base for cargo forecasts.

Question on non-operating revenue forecast:
The interest income forecast is too low. It was based on our estimate after the sale of the $11,000,000 revenue bond issue. If we do sell the additional $9,000,000 this fiscal year, and we fully expect to, our estimated interest income will be increased because of the funds the trustee holds to service the bonds. We now estimate a minimum of $400,000 per year for the foreseeable future for this item.

Paragraph VII Are the estimated maintenance and operating expenses reasonable? Yes, they appear to be reasonable.

Paragraph VIII Estimated miscellaneous expenses.
The estimates are reasonable as it is difficult to predict them accurately.

Paragraph IX Estimated improvements, reconstruction, replacement and equipment expenses.
The estimates are reasonable and this is an item that can be controlled. If we have funds, we will undoubtedly spend more; if not, we can hold the expenditures to this amount.

We would have preferred to have had more time to study your report, but in the limited time permitted we do not feel we can furnish more specific comments.

Very truly yours,

John D. Yeomans

John D. Yeomans
Comptroller

JDY:mh

## Table II

## Debt Service Requirements
## Existing + $32,000,000 in G.O. Bonds (5½%)

Debt Service Existing After | Debt Service of $32,000,000 | Total

|  | (1) | (2) | ( |
|---|---|---|---|
| Fiscal Year Ending June 30 | Estimated Cargo Revenue | Estimated Non-Cargo Revenue | Net T Railro Reven |
| 1970 | 5,646,000 | 3,635,000 | (294, |
| 1971 | 5,946,000 | 3,700,000 | (150, |
| 1972 | 7,546,000 | 3,900,000 | (160 |
| 1973 | 8,266,000 | 4,000,000 | (170 |
| 1974 | 8,431,000 | 4,100,000 | (180 |
| 1975 | 8,599,000 | 4,200,000 | (190 |
| 1976 | 8,772,000 | 4,300,000 | (200 |
| 1977 | 8,947,000 | 4,500,000 | (220 |
| 1978 | 9,126,000 | 4,600,000 | (220 |
| 1979 | 9,309,000 | 4,700,000 | (220 |
| 1980 | 9,495,000 | 4,900,000 | (220 |
| 1981 | 9,684,000 | 5,000,000 | (220 |
| 1982 | 9,878,000 | 5,200,000 | (220 |
| 1983 | 10,076,000 | 5,300,000 | (220 |
| 1984 | 10,278,000 | 5,500,000 | (220 |
| 1985 | 10,483,000 | 5,700,000 | (220 |
| 1986 | 10,692,000 | 5,800,000 | (220 |
| 1987 | 10,906,000 | 6,000,000 | (220, |
| 1988 | 11,000,000 | 6,200,000 | (220, |
| 1989 | 11,000,000 | 6,400,000 | (220 |
| 1990 | 11,000,000 | 6,600,000 | (220 |
| 1991 | 11,000,000 | 6,800,000 | (220 |
| 1992 | 11,000,000 | 7,000,000 | (220 |
| 1993 | 11,000,000 | 7,200,000 | (220 |
| 1994 | 11,000,000 | 7,400,000 | (220 |
| 1995 | 11,000,000 | 7,600,000 | (220 |
| 1996 | 11,000,000 | 7,800,000 | (220 |
| 1997 | 11,000,000 | 8,100,000 | (220 |
| 1998 | 11,000,000 | 8,300,000 | (220 |
| 1999 | 11,000,000 | 8,600,000 | (220 |
| 2000 | 11,000,000 | 8,800,000 | (220 |

## Table I - $B_H$

### Cash Available for Debt Service
### Optimistic Cargo Revenue Forecast
### \$32,000,000 New Facility in Fiscal 1974

| Fiscal Year Ending June 30 | (1) Estimated Cargo Revenue | (2) Estimated Non-Cargo Revenue | (3) Net Belt Railroad Revenue | (4) Estimated Non-Operating Revenue | (5) Total Revenue | (6) Estimated Maintenance Expenses | (7) Estimated Operating Expenses | (8) Estimated Miscellaneous Expenses | (9) Estimated Improvements, Reconstruction, Replacement | (10) Total Cash Outflow | (11) Net Available for Debt Service |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1970 | 5,646,000 | 3,635,000 | (294,000) | 2,679,000 | 11,666,000 | 2,910,000 | 2,508,000 | 928,000 | 3,642,000 | 9,988,000 | 1,678,000 |
| 1971 | 5,946,000 | 3,700,000 | (150,000) | 2,100,000 | 11,596,000 | 3,100,000 | 2,600,000 | 600,000 | 2,000,000 | 8,300,000 | 3,296,000 |
| 1972 | 7,546,000 | 3,900,000 | (160,000) | 1,800,000 | 13,086,000 | 3,200,000 | 2,600,000 | 600,000 | 1,500,000 | 7,900,000 | 5,186,000 |
| 1973 | 8,266,000 | 4,000,000 | (170,000) | 1,700,000 | 13,796,000 | 3,400,000 | 2,700,000 | 600,000 | 1,000,000 | 7,700,000 | 6,096,000 |
| 1974 | 8,431,000 | 4,100,000 | (180,000) | 1,600,000 | 13,951,000 | 3,600,000 | 2,800,000 | 600,000 | 1,000,000 | 8,000,000 | 5,951,000 |
| 1975 | 8,599,000 | 4,200,000 | (190,000) | 1,600,000 | 14,209,000 | 3,800,000 | 2,800,000 | 600,000 | 500,000 | 7,700,000 | 6,509,000 |
| 1976 | 8,772,000 | 4,300,000 | (200,000) | 1,700,000 | 14,572,000 | 3,900,000 | 2,900,000 | 600,000 | 500,000 | 7,900,000 | 6,672,000 |
| 1977 | 8,947,000 | 4,500,000 | (220,000) | 1,700,000 | 14,927,000 | 4,000,000 | 3,000,000 | 600,000 | 500,000 | 8,100,000 | 6,827,000 |
| 1978 | 9,126,000 | 4,600,000 | (220,000) | 1,700,000 | 15,206,000 | 4,200,000 | 3,100,000 | 600,000 | 500,000 | 8,400,000 | 6,806,000 |
| 1979 | 9,309,000 | 4,700,000 | (220,000) | 1,800,000 | 15,589,000 | 4,400,000 | 3,100,000 | 600,000 | 500,000 | 8,600,000 | 6,989,000 |
| 1980 | 9,495,000 | 4,900,000 | (220,000) | 1,800,000 | 15,975,000 | 4,600,000 | 3,200,000 | 600,000 | 500,000 | 8,900,000 | 7,075,000 |
| 1981 | 9,684,000 | 5,000,000 | (220,000) | 1,800,000 | 16,264,000 | 4,800,000 | 3,300,000 | 600,000 | 500,000 | 9,200,000 | 7,064,000 |
| 1982 | 9,878,000 | 5,200,000 | (220,000) | 1,900,000 | 16,758,000 | 5,100,000 | 3,400,000 | 600,000 | 500,000 | 9,600,000 | 7,158,000 |
| 1983 | 10,076,000 | 5,300,000 | (220,000) | 1,900,000 | 17,056,000 | 5,300,000 | 3,500,000 | 600,000 | 500,000 | 9,900,000 | 7,156,000 |
| 1984 | 10,278,000 | 5,500,000 | (220,000) | 2,000,000 | 17,560,000 | 5,600,000 | 3,500,000 | 600,000 | 500,000 | 10,200,000 | 7,360,000 |
| 1985 | 10,483,000 | 5,700,000 | (220,000) | 2,000,000 | 17,960,000 | 5,900,000 | 3,600,000 | 600,000 | 500,000 | 10,600,000 | 7,360,000 |
| 1986 | 10,692,000 | 5,800,000 | (220,000) | 2,000,000 | 18,270,000 | 6,000,000 | 3,700,000 | 600,000 | 500,000 | 10,800,000 | 7,470,000 |
| 1987 | 10,906,000 | 6,000,000 | (220,000) | 2,100,000 | 18,790,000 | 6,300,000 | 3,800,000 | 600,000 | 500,000 | 11,200,000 | 7,590,000 |
| 1988 | 11,000,000 | 6,200,000 | (220,000) | 2,100,000 | 19,080,000 | 6,300,000 | 3,900,000 | 600,000 | 500,000 | 11,300,000 | 7,780,000 |
| 1989 | 11,000,000 | 6,400,000 | (220,000) | 2,200,000 | 19,380,000 | 6,300,000 | 4,000,000 | 600,000 | 500,000 | 11,400,000 | 7,980,000 |
| 1990 | 11,000,000 | 6,600,000 | (220,000) | 2,200,000 | 19,580,000 | 6,300,000 | 4,100,000 | 600,000 | 500,000 | 11,500,000 | 8,080,000 |
| 1991 | 11,000,000 | 6,800,000 | (220,000) | 2,300,000 | 19,880,000 | 6,300,000 | 4,200,000 | 600,000 | 500,000 | 11,600,000 | 8,280,000 |
| 1992 | 11,000,000 | 7,000,000 | (220,000) | 2,300,000 | 20,080,000 | 6,300,000 | 4,300,000 | 600,000 | 500,000 | 11,700,000 | 8,380,000 |
| 1993 | 11,000,000 | 7,200,000 | (220,000) | 2,400,000 | 20,380,000 | 6,300,000 | 4,300,000 | 600,000 | 500,000 | 11,700,000 | 8,680,000 |
| 1994 | 11,000,000 | 7,400,000 | (220,000) | 2,400,000 | 20,580,000 | 6,300,000 | 4,400,000 | 600,000 | 500,000 | 11,800,000 | 8,780,000 |
| 1995 | 11,000,000 | 7,600,000 | (220,000) | 2,400,000 | 20,780,000 | 6,300,000 | 4,500,000 | 600,000 | 500,000 | 11,900,000 | 8,880,000 |
| 1996 | 11,000,000 | 7,800,000 | (220,000) | 2,500,000 | 21,080,000 | 6,300,000 | 4,600,000 | 600,000 | 500,000 | 12,000,000 | 9,080,000 |
| 1997 | 11,000,000 | 8,100,000 | (220,000) | 2,500,000 | 21,380,000 | 6,300,000 | 4,800,000 | 600,000 | 500,000 | 12,200,000 | 9,180,000 |
| 1998 | 11,000,000 | 8,300,000 | (220,000) | 2,600,000 | 21,680,000 | 6,300,000 | 4,800,000 | 600,000 | 500,000 | 12,200,000 | 9,480,000 |
| 1999 | 11,000,000 | 8,600,000 | (220,000) | 2,600,000 | 21,980,000 | 6,300,000 | 5,000,000 | 600,000 | 500,000 | 12,400,000 | 9,580,000 |
| 2000 | 11,000,000 | 8,800,000 | (220,000) | 2,700,000 | 22,280,000 | 6,300,000 | 5,100,000 | 600,000 | 500,000 | 12,500,000 | 9,780,000 |

## Table II

### Debt Service Requirements
### Existing + $32,000,000 in G.O. Bonds (5½%)

| | Debt Service Existing After Fiscal 1972 | Debt Service of $32,000,000 (G.O.Bonds) | Total Debt Service |
|---|---|---|---|
| 1970 | 4,316,000 | - | 4,316,000 |
| 1971 | 4,964,000 | - | 4,964,000 |
| 1972 | 5,709,000 | 385,000 | 6,094,000 |
| 1973 | 5,717,000 | 1,555,000 | 7,272,000 |
| 1974 | 5,899,000 | 2,428,000 | 8,327,000 |
| 1975 | 5,783,000 | 2,619,000 | 8,402,000 |
| 1976 | 5,679,000 | 2,568,000 | 8,265,000 |
| 1977 | 5,486,000 | 2,517,000 | 8,003,000 |
| 1978 | 5,276,000 | 2,466,000 | 7,742,000 |
| 1979 | 5,196,000 | 2,416,000 | 7,612,000 |
| 1980 | 5,047,000 | 2,365,000 | 7,412,000 |
| 1981 | 4,965,000 | 2,314,000 | 7,279,000 |
| 1982 | 4,831,000 | 2,263,000 | 7,094,000 |
| 1983 | 4,741,000 | 2,212,000 | 6,953,000 |
| 1984 | 4,211,000 | 2,171,000 | 6,382,000 |
| 1985 | 4,109,000 | 2,110,000 | 6,219,000 |
| 1986 | 4,038,000 | 2,059,000 | 6,097,000 |
| 1987 | 3,960,000 | 2,009,000 | 5,969,000 |
| 1988 | 3,955,000 | 1,958,000 | 5,913,000 |
| 1989 | 3,838,000 | 1,922,000 | 5,760,000 |
| 1990 | 3,759,000 | 1,856,000 | 5,615,000 |
| 1991 | 3,204,000 | 1,830,000 | 5,034,000 |
| 1992 | 3,116,000 | 1,778,000 | 4,894,000 |
| 1993 | 3,131,000 | 1,926,000 | 5,057,000 |
| 1994 | 3,061,000 | 2,062,000 | 5,123,000 |
| 1995 | 3,056,000 | 1,988,000 | 5,044,000 |
| 1996 | 2,678,000 | 1,914,000 | 4,592,000 |
| 1997 | 2,591,000 | 1,840,000 | 4,431,000 |
| 1998 | 2,211,000 | 1,765,000 | 3,976,000 |
| 1999 | 2,212,000 | 1,891,000 | 4,103,000 |
| 2000 | 748,000 | 2,006,000 | 2,754,000 |

## Table III

### Debt Service Requirements
### Existing + $32,000,000 in Revenue Bonds (7¼%)

| | Debt Service Existing After Fiscal 1972 | Debt Service of $32,000,000 (Revenue Bonds) | Total Debt Service |
|---|---|---|---|
| 1970 | 4,316,000 | - | 4,316,000 |
| 1971 | 4,964,000 | - | 4,964,000 |
| 1972 | 5,709,000 | 507,000 | 6,216,000 |
| 1973 | 5,717,000 | 1,922,000 | 7,639,000 |
| 1974 | 5,899,000 | 2,946,000 | 8,845,000 |
| 1975 | 5,783,000 | 3,158,000 | 8,941,000 |
| 1976 | 5,697,000 | 3,091,000 | 8,788,000 |
| 1977 | 5,486,000 | 3,024,000 | 8,510,000 |
| 1978 | 5,276,000 | 2,957,000 | 8,233,000 |
| 1979 | 5,196,000 | 2,890,000 | 8,086,000 |
| 1980 | 5,047,000 | 2,823,000 | 7,870,000 |
| 1981 | 4,965,000 | 2,756,000 | 7,721,000 |
| 1982 | 4,831,000 | 2,689,000 | 7,520,000 |
| 1983 | 4,741,000 | 2,622,000 | 7,363,000 |
| 1984 | 4,211,000 | 2,554,000 | 6,765,000 |
| 1985 | 4,109,000 | 2,487,000 | 6,596,000 |
| 1986 | 4,038,000 | 2,420,000 | 6,458,000 |
| 1987 | 3,960,000 | 2,353,000 | 6,313,000 |
| 1988 | 3,955,000 | 2,286,000 | 6,241,000 |
| 1989 | 3,838,000 | 2,219,000 | 6,057,000 |
| 1990 | 3,759,000 | 2,152,000 | 5,911,000 |
| 1991 | 3,204,000 | 2,110,000 | 5,314,000 |
| 1992 | 3,116,000 | 2,041,000 | 5,157,000 |
| 1993 | 3,131,000 | 2,172,000 | 5,303,000 |
| 1994 | 3,061,000 | 2,289,000 | 5,350,000 |
| 1995 | 3,056,000 | 2,192,000 | 5,248,000 |
| 1996 | 2,678,000 | 2,094,000 | 4,772,000 |
| 1997 | 2,591,000 | 1,996,000 | 4,587,000 |
| 1998 | 2,211,000 | 1,898,000 | 4,109,000 |
| 1999 | 2,212,000 | 2,000,000 | 4,212,000 |
| 2000 | 748,000 | 2,087,000 | 2,835,000 |

## Table IV

### Net Cash Flow ($B_H$ + G.O.)
### Optimistic Cargo Forecast with $32,000,000 Added G.O. Bonds

| | Net Available for Debt Service | Total Debt Service Existing + $32,000,000 (G.O. Bonds) | Cash Flow |
|---|---|---|---|
| 1970 | 1,678,000 | 4,316,000 | (2,638,000) |
| 1971 | 3,296,000 | 4,964,000 | (1,668,000) |
| 1972 | 5,186,000 | 6,094,000 | ( 908,000) |
| 1973 | 6,096,000 | 7,272,000 | (1,176,000) |
| 1974 | 5,951,000 | 8,327,000 | (2,376,000) |
| 1975 | 6,509,000 | 8,402,000 | (1,893,000) |
| 1976 | 6,672,000 | 8,265,000 | (1,593,000) |
| 1977 | 6,827,000 | 8,003,000 | (1,176,000) |
| 1978 | 6,806,000 | 7,742,000 | ( 936,000) |
| 1979 | 6,989,000 | 7,612,000 | ( 623,000) |
| 1980 | 7,075,000 | 7,412,000 | ( 337,000) |
| 1981 | 7,064,000 | 7,279,000 | ( 215,000) |
| 1982 | 7,158,000 | 7,094,000 | 64,000 |
| 1983 | 7,156,000 | 6,953,000 | 203,000 |
| 1984 | 7,360,000 | 6,382,000 | 978,000 |
| 1985 | 7,360,000 | 6,219,000 | 1,141,000 |
| 1986 | 7,470,000 | 6,097,000 | 1,393,000 |
| 1987 | 7,590,000 | 5,969,000 | 1,621,000 |
| 1988 | 7,780,000 | 5,913,000 | 1,867,000 |
| 1989 | 7,980,000 | 5,760,000 | 2,220,000 |
| 1990 | 8,080,000 | 5,615,000 | 2,465,000 |
| 1991 | 8,280,000 | 5,034,000 | 3,246,000 |
| 1992 | 8,380,000 | 4,894,000 | 3,486,000 |
| 1993 | 8,680,000 | 5,057,000 | 3,623,000 |
| 1994 | 8,780,000 | 5,123,000 | 3,657,000 |
| 1995 | 8,880,000 | 5,044,000 | 3,836,000 |
| 1996 | 9,080,000 | 4,592,000 | 4,488,000 |
| 1997 | 9,180,000 | 4,431,000 | 4,749,000 |
| 1998 | 9,480,000 | 3,976,000 | 5,504,000 |
| 1999 | 9,580,000 | 4,103,000 | 5,477,000 |
| 2000 | 9,780,000 | 2,754,000 | 7,026,000 |

## Table V

### Net Cash Flow ($B_H$ + Revenue)
### Optimistic Cargo Forecast with
### $32,000,000 Added Revenue Bonds

| | Net Available for Debt Service | Total Debt Service Existing + $32,000,000 (Revenue Bonds) | Cash Flow |
|---|---|---|---|
| 1970 | 1,678,000 | 4,316,000 | (2,638,000) |
| 1971 | 3,296,000 | 4,964,000 | (1,668,000) |
| 1972 | 5,186,000 | 6,216,000 | (1,030,000) |
| 1973 | 6,096,000 | 7,639,000 | (1,543,000) |
| 1974 | 5,951,000 | 8,845,000 | (2,894,000) |
| 1975 | 6,509,000 | 8,941,000 | (2,432,000) |
| 1976 | 6,672,000 | 8,788,000 | (2,116,000) |
| 1977 | 6,827,000 | 8,510,000 | (1,683,000) |
| 1978 | 6,806,000 | 8,233,000 | (1,427,000) |
| 1979 | 6,989,000 | 8,086,000 | (1,097,000) |
| 1980 | 7,075,000 | 7,870,000 | ( 795,000) |
| 1981 | 7,064,000 | 7,721,000 | ( 657,000) |
| 1982 | 7,158,000 | 7,520,000 | ( 362,000) |
| 1983 | 7,156,000 | 7,363,000 | ( 207,000) |
| 1984 | 7,360,000 | 6,765,000 | 595,000 |
| 1985 | 7,360,000 | 6,596,000 | 764,000 |
| 1986 | 7,470,000 | 6,458,000 | 1,012,000 |
| 1987 | 7,590,000 | 6,313,000 | 1,277,000 |
| 1988 | 7,780,000 | 6,241,000 | 1,539,000 |
| 1989 | 7,980,000 | 6,057,000 | 1,923,000 |
| 1990 | 8,080,000 | 5,911,000 | 2,169,000 |
| 1991 | 8,280,000 | 5,314,000 | 2,966,000 |
| 1992 | 8,380,000 | 5,157,000 | 3,223,000 |
| 1993 | 8,680,000 | 5,303,000 | 3,377,000 |
| 1994 | 8,780,000 | 5,350,000 | 3,430,000 |
| 1995 | 8,880,000 | 5,248,000 | 3,632,000 |
| 1996 | 9,080,000 | 4,772,000 | 4,308,000 |
| 1997 | 9,180,000 | 4,587,000 | 4,593,000 |
| 1998 | 9,480,000 | 4,109,000 | 5,371,000 |
| 1999 | 9,580,000 | 4,212,000 | 5,368,000 |
| 2000 | 9,780,000 | 2,835,000 | 6,945,000 |

## Table VI

### Difference Between Cash Flow
### Under G.O. and Revenue Bonds
### Optimistic Forecast ($B_H$)

| | G.O. Bonds | Revenue Bonds | Difference |
|---|---|---|---|
| 1970 | (2,638,000) | (2,638,000) | - |
| 1971 | (1,668,000) | (1,668,000) | - |
| 1972 | (908,000) | (1,030,000) | 122,000 |
| 1973 | (1,176,000) | (1,543,000) | 367,000 |
| 1974 | (2,376,000) | (2,894,000) | 518,000 |
| 1975 | (1,893,000) | (2,432,000) | 539,000 |
| 1976 | (1,593,000) | (2,116,000) | 523,000 |
| 1977 | (1,176,000) | (1,683,000) | 507,000 |
| 1978 | (936,000) | (1,427,000) | 491,000 |
| 1979 | (623,000) | (1,097,000) | 474,000 |
| 1980 | (337,000) | (795,000) | 458,000 |
| 1981 | (215,000) | (657,000) | 442,000 |
| 1982 | 64,000 | (362,000) | 426,000 |
| 1983 | 203,000 | (207,000) | 410,000 |
| 1984 | 978,000 | 595,000 | 383,000 |
| 1985 | 1,141,000 | 764,000 | 377,000 |
| 1986 | 1,373,000 | 1,012,000 | 361,000 |
| 1987 | 1,621,000 | 1,277,000 | 344,000 |
| 1988 | 1,867,000 | 1,539,000 | 328,000 |
| 1989 | 2,220,000 | 1,923,000 | 297,000 |
| 1990 | 2,465,000 | 2,169,000 | 296,000 |
| 1991 | 3,246,000 | 2,966,000 | 280,000 |
| 1992 | 3,486,000 | 3,223,000 | 263,000 |
| 1993 | 3,623,000 | 3,377,000 | 246,000 |
| 1994 | 3,657,000 | 3,430,000 | 227,000 |
| 1995 | 3,836,000 | 3,632,000 | 204,000 |
| 1996 | 4,488,000 | 4,308,000 | 180,000 |
| 1997 | 4,749,000 | 4,593,000 | 156,000 |
| 1998 | 5,504,000 | 5,371,000 | 133,000 |
| 1999 | 5,477,000 | 5,368,000 | 109,000 |
| 2000 | 7,026,000 | 6,945,000 | 81,000 |

## Table VIII

### Net Cash Flow ($B_L$ + G.O.)
### Conservative Cargo Forecast with
### $32,000,000 Added G.O. Bonds

Net Available for Debt Service

Total Debt Service Existing + $32,000,000 (G.O. Bonds)

Cash Flow

| | (1) | (2) | ( |
|---|---|---|---|
| Fiscal Year Ending June 30 | Estimated Cargo Revenue | Estimated Non-Cargo Revenue | Net Railr Rever |
| 1970 | 5,646,000 | 3,635,000 | (294 |
| 1971 | 5,700,000 | 3,700,000 | (150 |
| 1972 | 7,200,000 | 3,900,000 | (160 |
| 1973 | 7,700,000 | 4,000,000 | (17 |
| 1974 | 7,800,000 | 4,100,000 | (180 |
| 1975 | 8,000,000 | 4,200,000 | (190 |
| 1976 | 8,000,000 | 4,300,000 | (200 |
| 1977 | 8,000,000 | 4,500,000 | (22 |
| 1978 | 8,000,000 | 4,600,000 | (22 |
| 1979 | 8,000,000 | 4,700,000 | (22 |
| 1980 | 8,000,000 | 4,900,000 | (220 |
| 1981 | 8,000,000 | 5,000,000 | (220 |
| 1982 | 8,000,000 | 5,200,000 | (220 |
| 1983 | 8,000,000 | 5,300,000 | (22 |
| 1984 | 8,000,000 | 5,500,000 | (22 |
| 1985 | 8,000,000 | 5,700,000 | (22 |
| 1986 | 8,000,000 | 5,800,000 | (220 |
| 1987 | 8,000,000 | 6,000,000 | (220 |
| 1988 | 8,000,000 | 6,200,000 | (220 |
| 1989 | 8,000,000 | 6,400,000 | (220 |
| 1990 | 8,000,000 | 6,600,000 | (220 |
| 1991 | 8,000,000 | 6,800,000 | (220 |
| 1992 | 8,000,000 | 7,000,000 | (220 |
| 1993 | 8,000,000 | 7,200,000 | (220 |
| 1994 | 8,000,000 | 7,400,000 | (220 |
| 1995 | 8,000,000 | 7,600,000 | (220 |
| 1996 | 8,000,000 | 7,800,000 | (220 |
| 1997 | 8,000,000 | 8,100,000 | (220 |
| 1998 | 8,000,000 | 8,300,000 | (220 |
| 1999 | 8,000,000 | 8,600,000 | (220 |
| 2000 | 8,000,000 | 8,800,000 | (220 |

# Table VII - B_L

## Cash Available for Debt Service
## Conservative Cargo Revenue Forecast
## $32,000,000 New Facility in Fiscal 1974

| Fiscal Year Ending June 30 | (1) Estimated Cargo Revenue | (2) Estimated Non-Cargo Revenue | (3) Net Belt Railroad Revenue | (4) Estimated Non-Operating Revenue | (5) Total Revenue | (6) Estimated Maintenance Expenses | (7) Estimated Operating Expenses | (8) Estimated Miscellaneous Expenses | (9) Estimated Improvements, Reconstruction, Replacement | (10) Total Cash Outflow | (11) Net Available for Debt Service |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1970 | 5,646,000 | 3,635,000 | (294,000) | 2,679,000 | 11,666,000 | 2,910,000 | 2,508,000 | 928,000 | 3,642,000 | 9,988,000 | 1,678,000 |
| 1971 | 5,700,000 | 3,700,000 | (150,000) | 2,100,000 | 11,350,000 | 3,100,000 | 2,600,000 | 600,000 | 2,000,000 | 8,300,000 | 3,050,000 |
| 1972 | 7,200,000 | 3,900,000 | (160,000) | 1,800,000 | 12,740,000 | 3,200,000 | 2,600,000 | 600,000 | 1,500,000 | 7,900,000 | 4,840,000 |
| 1973 | 7,700,000 | 4,000,000 | (170,000) | 1,700,000 | 13,230,000 | 3,400,000 | 2,700,000 | 600,000 | 1,000,000 | 7,700,000 | 5,530,000 |
| 1974 | 7,800,000 | 4,100,000 | (180,000) | 1,600,000 | 13,320,000 | 3,600,000 | 2,800,000 | 600,000 | 1,000,000 | 8,000,000 | 5,320,000 |
| 1975 | 8,000,000 | 4,200,000 | (190,000) | 1,600,000 | 13,610,000 | 3,800,000 | 2,800,000 | 600,000 | 500,000 | 7,700,000 | 5,910,000 |
| 1976 | 8,000,000 | 4,300,000 | (200,000) | 1,700,000 | 13,800,000 | 3,900,000 | 2,900,000 | 600,000 | 500,000 | 7,900,000 | 5,900,000 |
| 1977 | 8,000,000 | 4,500,000 | (220,000) | 1,700,000 | 13,980,000 | 4,000,000 | 3,000,000 | 600,000 | - | 7,600,000 | 6,380,000 |
| 1978 | 8,000,000 | 4,600,000 | (220,000) | 1,700,000 | 14,080,000 | 4,100,000 | 3,100,000 | 600,000 | - | 7,800,000 | 6,280,000 |
| 1979 | 8,000,000 | 4,700,000 | (220,000) | 1,800,000 | 14,280,000 | 4,200,000 | 3,100,000 | 600,000 | - | 7,900,000 | 6,380,000 |
| 1980 | 8,000,000 | 4,900,000 | (220,000) | 1,800,000 | 14,480,000 | 4,300,000 | 3,200,000 | 600,000 | - | 8,100,000 | 6,380,000 |
| 1981 | 8,000,000 | 5,000,000 | (220,000) | 1,800,000 | 14,580,000 | 4,400,000 | 3,300,000 | 600,000 | - | 8,300,000 | 6,280,000 |
| 1982 | 8,000,000 | 5,200,000 | (220,000) | 1,900,000 | 14,880,000 | 4,500,000 | 3,400,000 | 600,000 | - | 8,500,000 | 6,380,000 |
| 1983 | 8,000,000 | 5,300,000 | (220,000) | 1,900,000 | 14,980,000 | 4,600,000 | 3,500,000 | 600,000 | - | 8,700,000 | 6,280,000 |
| 1984 | 8,000,000 | 5,500,000 | (220,000) | 2,000,000 | 15,280,000 | 4,700,000 | 3,500,000 | 600,000 | - | 8,800,000 | 6,480,000 |
| 1985 | 8,000,000 | 5,700,000 | (220,000) | 2,000,000 | 15,480,000 | 4,700,000 | 3,600,000 | 600,000 | - | 8,900,000 | 6,580,000 |
| 1986 | 8,000,000 | 5,800,000 | (220,000) | 2,000,000 | 15,580,000 | 4,700,000 | 3,700,000 | 600,000 | - | 9,000,000 | 6,580,000 |
| 1987 | 8,000,000 | 6,000,000 | (220,000) | 2,100,000 | 15,880,000 | 4,700,000 | 3,800,000 | 600,000 | - | 9,100,000 | 6,780,000 |
| 1988 | 8,000,000 | 6,200,000 | (220,000) | 2,100,000 | 16,080,000 | 4,700,000 | 3,900,000 | 600,000 | - | 9,200,000 | 6,880,000 |
| 1989 | 8,000,000 | 6,400,000 | (220,000) | 2,200,000 | 16,380,000 | 4,700,000 | 4,000,000 | 600,000 | - | 9,300,000 | 7,080,000 |
| 1990 | 8,000,000 | 6,600,000 | (220,000) | 2,200,000 | 16,580,000 | 4,700,000 | 4,100,000 | 600,000 | - | 9,400,000 | 7,180,000 |
| 1991 | 8,000,000 | 6,800,000 | (220,000) | 2,300,000 | 16,880,000 | 4,700,000 | 4,200,000 | 600,000 | - | 9,500,000 | 7,380,000 |
| 1992 | 8,000,000 | 7,000,000 | (220,000) | 2,300,000 | 17,080,000 | 4,700,000 | 4,300,000 | 600,000 | - | 9,600,000 | 7,480,000 |
| 1993 | 8,000,000 | 7,200,000 | (220,000) | 2,400,000 | 17,380,000 | 4,700,000 | 4,300,000 | 600,000 | - | 9,600,000 | 7,780,000 |
| 1994 | 8,000,000 | 7,400,000 | (220,000) | 2,400,000 | 17,580,000 | 4,700,000 | 4,400,000 | 600,000 | - | 9,700,000 | 7,880,000 |
| 1995 | 8,000,000 | 7,600,000 | (220,000) | 2,400,000 | 17,780,000 | 4,700,000 | 4,500,000 | 600,000 | - | 9,800,000 | 7,980,000 |
| 1996 | 8,000,000 | 7,800,000 | (220,000) | 2,500,000 | 18,080,000 | 4,700,000 | 4,600,000 | 600,000 | - | 9,900,000 | 8,180,000 |
| 1997 | 8,000,000 | 8,100,000 | (220,000) | 2,500,000 | 18,380,000 | 4,700,000 | 4,800,000 | 600,000 | - | 10,100,000 | 8,280,000 |
| 1998 | 8,000,000 | 8,300,000 | (220,000) | 2,600,000 | 18,680,000 | 4,700,000 | 4,800,000 | 600,000 | - | 10,100,000 | 8,580,000 |
| 1999 | 8,000,000 | 8,600,000 | (220,000) | 2,600,000 | 18,980,000 | 4,700,000 | 5,000,000 | 600,000 | - | 10,300,000 | 8,680,000 |
| 2000 | 8,000,000 | 8,800,000 | (220,000) | 2,700,000 | 19,280,000 | 4,700,000 | 5,100,000 | 600,000 | - | 10,400,000 | 8,880,000 |

Table VIII

Net Cash Flow ($B_L$ + G.O.)
Conservative Cargo Forecast with
$32,000,000 Added G.O. Bonds

| | Net Available for Debt Service | Total Debt Service Existing + $32,000,000 (G.O. Bonds) | Cash Flow |
|---|---|---|---|
| 1970 | 1,678,000 | 4,316,000 | (2,638,000) |
| 1971 | 3,050,000 | 4,964,000 | (1,914,000) |
| 1972 | 4,840,000 | 6,094,000 | (1,254,000) |
| 1973 | 5,530,000 | 7,272,000 | (1,742,000) |
| 1974 | 5,320,000 | 8,327,000 | (3,007,000) |
| 1975 | 5,910,000 | 8,402,000 | (2,492,000) |
| 1976 | 5,900,000 | 8,265,000 | (2,365,000) |
| 1977 | 6,380,000 | 8,003,000 | (1,623,000) |
| 1978 | 6,280,000 | 7,742,000 | (1,462,000) |
| 1979 | 6,380,000 | 7,612,000 | (1,232,000) |
| 1980 | 6,380,000 | 7,412,000 | (1,032,000) |
| 1981 | 6,280,000 | 7,279,000 | ( 999,000) |
| 1982 | 6,380,000 | 7,094,000 | ( 714,000) |
| 1983 | 6,280,000 | 6,953,000 | ( 673,000) |
| 1984 | 6,480,000 | 6,382,000 | 98,000 |
| 1985 | 6,580,000 | 6,219,000 | 361,000 |
| 1986 | 6,580,000 | 6,097,000 | 483,000 |
| 1987 | 6,780,000 | 5,969,000 | 811,000 |
| 1988 | 6,880,000 | 5,913,000 | 967,000 |
| 1989 | 7,080,000 | 5,760,000 | 1,320,000 |
| 1990 | 7,180,000 | 5,615,000 | 1,565,000 |
| 1991 | 7,380,000 | 5,034,000 | 2,346,000 |
| 1992 | 7,480,000 | 4,894,000 | 2,586,000 |
| 1993 | 7,780,000 | 5,057,000 | 2,723,000 |
| 1994 | 7,880,000 | 5,123,000 | 2,757,000 |
| 1995 | 7,980,000 | 5,044,000 | 2,936,000 |
| 1996 | 8,180,000 | 4,592,000 | 3,588,000 |
| 1997 | 8,280,000 | 4,431,000 | 3,849,000 |
| 1998 | 8,580,000 | 3,976,000 | 4,604,000 |
| 1999 | 8,680,000 | 4,103,000 | 4,577,000 |
| 2000 | 8,880,000 | 2,754,000 | 6,126,000 |

## Table IX

### Net Cash Flow ($B_L$ + Revenue)
### Conservative Cargo Forecast with
### $32,000,000 Added Revenue Bonds

| | Net Available for Debt Service | Total Debt Service Existing + $32,000,000 (Revenue Bonds) | Cash Flow |
|---|---|---|---|
| 1970 | 1,678,000 | 4,316,000 | (2,638,000) |
| 1971 | 3,050,000 | 4,964,000 | (1,914,000) |
| 1972 | 4,840,000 | 6,216,000 | (1,376,000) |
| 1973 | 5,530,000 | 7,639,000 | (2,109,000) |
| 1974 | 5,320,000 | 8,845,000 | (3,525,000) |
| 1975 | 5,910,000 | 8,941,000 | (3,031,000) |
| 1976 | 5,900,000 | 8,788,000 | (2,888,000) |
| 1977 | 6,380,000 | 8,510,000 | (2,130,000) |
| 1978 | 6,280,000 | 8,233,000 | (1,953,000) |
| 1979 | 6,380,000 | 8,086,000 | (1,706,000) |
| 1980 | 6,380,000 | 7,870,000 | (1,490,000) |
| 1981 | 6,280,000 | 7,721,000 | (1,441,000) |
| 1982 | 6,380,000 | 7,520,000 | (1,140,000) |
| 1983 | 6,280,000 | 7,363,000 | (1,083,000) |
| 1984 | 6,480,000 | 6,765,000 | ( 285,000) |
| 1985 | 6,580,000 | 6,596,000 | ( 16,000) |
| 1986 | 6,580,000 | 6,458,000 | 122,000 |
| 1987 | 6,780,000 | 6,313,000 | 467,000 |
| 1988 | 6,880,000 | 6,241,000 | 639,000 |
| 1989 | 7,080,000 | 6,057,000 | 1,023,000 |
| 1990 | 7,180,000 | 5,911,000 | 1,269,000 |
| 1991 | 7,380,000 | 5,314,000 | 2,066,000 |
| 1992 | 7,480,000 | 5,157,000 | 2,323,000 |
| 1993 | 7,780,000 | 5,303,000 | 2,477,000 |
| 1994 | 7,880,000 | 5,350,000 | 2,530,000 |
| 1995 | 7,980,000 | 5,248,000 | 2,732,000 |
| 1996 | 8,180,000 | 4,772,000 | 3,408,000 |
| 1997 | 8,280,000 | 4,587,000 | 3,693,000 |
| 1998 | 8,580,000 | 4,109,000 | 4,471,000 |
| 1999 | 8,680,000 | 4,212,000 | 4,468,000 |
| 2000 | 8,880,000 | 2,835,000 | 6,045,000 |

## Table X

### Difference Between Cash Flow Under G.O. and Revenue Bonds Conservative Forecast ($B_L$)

| | G.O. Bonds | Revenue Bonds | Difference |
|---|---|---|---|
| 1970 | (2,638,000) | (2,638,000) | - |
| 1971 | (1,914,000) | (1,914,000) | - |
| 1972 | (1,254,000) | (1,376,000) | 122,000 |
| 1973 | (1,742,000) | (2,109,000) | 367,000 |
| 1974 | (3,007,000) | (3,525,000) | 518,000 |
| 1975 | (2,492,000) | (3,031,000) | 539,000 |
| 1976 | (2,365,000) | (2,888,000) | 523,000 |
| 1977 | (1,623,000) | (2,130,000) | 507,000 |
| 1978 | (1,462,000) | (1,953,000) | 491,000 |
| 1979 | (1,232,000) | (1,706,000) | 474,000 |
| 1980 | (1,032,000) | (1,490,000) | 458,000 |
| 1981 | ( 999,000) | (1,441,000) | 442,000 |
| 1982 | ( 714,000) | (1,140,000) | 426,000 |
| 1983 | ( 673,000) | (1,083,000) | 410,000 |
| 1984 | 98,000 | ( 285,000) | 383,000 |
| 1985 | 361,000 | ( 16,000) | 377,000 |
| 1986 | 483,000 | 122,000 | 361,000 |
| 1987 | 811,000 | 467,000 | 344,000 |
| 1988 | 967,000 | 639,000 | 328,000 |
| 1989 | 1,320,000 | 1,023,000 | 297,000 |
| 1990 | 1,565,000 | 1,269,000 | 296,000 |
| 1991 | 2,346,000 | 2,066,000 | 280,000 |
| 1992 | 2,586,000 | 2,323,000 | 263,000 |
| 1993 | 2,723,000 | 2,477,000 | 246,000 |
| 1994 | 2,757,000 | 2,530,000 | 227,000 |
| 1995 | 2,936,000 | 2,732,000 | 204,000 |
| 1996 | 3,588,000 | 3,408,000 | 180,000 |
| 1997 | 3,849,000 | 3,693,000 | 156,000 |
| 1998 | 4,604,000 | 4,471,000 | 133,000 |
| 1999 | 4,577,000 | 4,468,000 | 109,000 |
| 2000 | 6,126,000 | 6,045,000 | 81,000 |

# Table XII

## Debt Service Requirements
## Existing + $79,000,000 in G.O. Bonds (5½%)

| Debt Service Existing After Fiscal 1972 | Debt Service of $79,000,000 (G.O. Bonds) | Total Debt Service |
|---|---|---|

$32,00

| | (1) | (2) | ( |
|---|---|---|---|
| Fiscal Year Ending June 30 | Estimated Cargo Revenue | Estimated Non-Cargo Revenue | Net Railr Reven |
| 1970 | 5,646,000 | 3,635,000 | (294 |
| 1971 | 5,900,000 | 3,700,000 | (150 |
| 1972 | 7,500,000 | 3,900,000 | (160 |
| 1973 | 8,300,000 | 4,000,000 | (170 |
| 1974 | 8,400,000 | 4,100,000 | (180 |
| 1975 | 8,600,000 | 4,200,000 | (190 |
| 1976 | 8,800,000 | 4,300,000 | (200 |
| 1977 | 11,900,000 | 4,500,000 | (22 |
| 1978 | 12,200,000 | 4,600,000 | (22 |
| 1979 | 12,500,000 | 4,700,000 | (22 |
| 1980 | 12,800,000 | 4,900,000 | (220 |
| 1981 | 13,100,000 | 5,000,000 | (220 |
| 1982 | 13,400,000 | 5,200,000 | (220 |
| 1983 | 13,700,000 | 5,300,000 | (22 |
| 1984 | 14,000,000 | 5,500,000 | (22 |
| 1985 | 14,300,000 | 5,700,000 | (22 |
| 1986 | 14,600,000 | 5,800,000 | (22 |
| 1987 | 14,800,000 | 6,000,000 | (220 |
| 1988 | 15,000,000 | 6,200,000 | (220 |
| 1989 | 15,300,000 | 6,400,000 | (220 |
| 1990 | 15,500,000 | 6,600,000 | (220 |
| 1991 | 15,700,000 | 6,800,000 | (22 |
| 1992 | 16,000,000 | 7,000,000 | (22 |
| 1993 | 16,200,000 | 7,200,000 | (22 |
| 1994 | 16,400,000 | 7,400,000 | (220 |
| 1995 | 16,700,000 | 7,600,000 | (220 |
| 1996 | 16,900,000 | 7,800,000 | (220 |
| 1997 | 17,200,000 | 8,100,000 | (22 |
| 1998 | 17,400,000 | 8,300,000 | (22 |
| 1999 | 17,700,000 | 8,600,000 | (22 |
| 2000 | 18,000,000 | 8,800,000 | (22 |

# Table XI - $C_H$

## Cash Available for Debt Service

## Optimistic Cargo Revenue Forecast

## $32,000,000 New Facility in Fiscal 1974 and $47,000,000 New Facility in Fiscal 1977

| Fiscal Year Ending June 30 | (1) Estimated Cargo Revenue | (2) Estimated Non-Cargo Revenue | (3) Net Belt Railroad Revenue | (4) Estimated Non-Operating Revenue | (5) Total Revenue | (6) Estimated Maintenance Expenses | (7) Estimated Operating Expenses | (8) Estimated Miscellaneous Expenses | (9) Estimated Improvements, Reconstruction, Replacement | (10) Total Cash Outflow | (11) Net Available for Debt Service |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1970 | 5,646,000 | 3,635,000 | (294,000) | 2,679,000 | 11,666,000 | 2,910,000 | 2,508,000 | 928,000 | 3,642,000 | 9,988,000 | 1,678,000 |
| 1971 | 5,900,000 | 3,700,000 | (150,000) | 2,100,000 | 11,550,000 | 3,100,000 | 2,600,000 | 600,000 | 2,000,000 | 8,300,000 | 3,250,000 |
| 1972 | 7,500,000 | 3,900,000 | (160,000) | 1,800,000 | 13,040,000 | 3,200,000 | 2,600,000 | 600,000 | 1,500,000 | 7,900,000 | 5,140,000 |
| 1973 | 8,300,000 | 4,000,000 | (170,000) | 1,700,000 | 13,830,000 | 3,400,000 | 2,700,000 | 600,000 | 1,000,000 | 7,700,000 | 6,130,000 |
| 1974 | 8,400,000 | 4,100,000 | (180,000) | 1,600,000 | 13,920,000 | 3,600,000 | 2,800,000 | 600,000 | 1,000,000 | 8,000,000 | 5,920,000 |
| 1975 | 8,600,000 | 4,200,000 | (190,000) | 1,600,000 | 14,210,000 | 3,800,000 | 2,800,000 | 600,000 | 500,000 | 7,700,000 | 6,510,000 |
| 1976 | 8,800,000 | 4,300,000 | (200,000) | 1,700,000 | 14,600,000 | 3,900,000 | 2,900,000 | 600,000 | 500,000 | 7,900,000 | 6,700,000 |
| 1977 | 11,900,000 | 4,500,000 | (220,000) | 1,700,000 | 17,880,000 | 4,000,000 | 3,000,000 | 600,000 | 500,000 | 8,100,000 | 9,780,000 |
| 1978 | 12,200,000 | 4,600,000 | (220,000) | 1,700,000 | 18,280,000 | 4,100,000 | 3,100,000 | 600,000 | 500,000 | 8,300,000 | 9,980,000 |
| 1979 | 12,500,000 | 4,700,000 | (220,000) | 1,800,000 | 18,780,000 | 4,200,000 | 3,100,000 | 600,000 | 500,000 | 8,400,000 | 10,380,000 |
| 1980 | 12,800,000 | 4,900,000 | (220,000) | 1,800,000 | 19,280,000 | 4,400,000 | 3,200,000 | 600,000 | 500,000 | 8,700,000 | 10,580,000 |
| 1981 | 13,100,000 | 5,000,000 | (220,000) | 1,800,000 | 19,680,000 | 4,400,000 | 3,300,000 | 600,000 | 500,000 | 8,800,000 | 10,880,000 |
| 1982 | 13,400,000 | 5,200,000 | (220,000) | 1,900,000 | 20,280,000 | 4,500,000 | 3,400,000 | 600,000 | 500,000 | 9,000,000 | 11,280,000 |
| 1983 | 13,700,000 | 5,300,000 | (220,000) | 1,900,000 | 20,680,000 | 4,600,000 | 3,500,000 | 600,000 | 500,000 | 9,200,000 | 11,480,000 |
| 1984 | 14,000,000 | 5,500,000 | (220,000) | 2,000,000 | 21,280,000 | 4,800,000 | 3,500,000 | 600,000 | 500,000 | 9,400,000 | 11,880,000 |
| 1985 | 14,300,000 | 5,700,000 | (220,000) | 2,000,000 | 21,780,000 | 4,800,000 | 3,600,000 | 600,000 | 500,000 | 9,500,000 | 12,280,000 |
| 1986 | 14,600,000 | 5,800,000 | (220,000) | 2,000,000 | 22,180,000 | 4,800,000 | 3,700,000 | 600,000 | 500,000 | 9,600,000 | 12,580,000 |
| 1987 | 14,800,000 | 6,000,000 | (220,000) | 2,100,000 | 22,680,000 | 4,800,000 | 3,800,000 | 600,000 | 500,000 | 9,700,000 | 12,980,000 |
| 1988 | 15,000,000 | 6,200,000 | (220,000) | 2,100,000 | 23,080,000 | 4,800,000 | 3,900,000 | 600,000 | 500,000 | 9,800,000 | 13,280,000 |
| 1989 | 15,300,000 | 6,400,000 | (220,000) | 2,200,000 | 23,680,000 | 4,800,000 | 4,000,000 | 600,000 | 500,000 | 9,900,000 | 13,780,000 |
| 1990 | 15,500,000 | 6,600,000 | (220,000) | 2,200,000 | 24,080,000 | 4,800,000 | 4,100,000 | 600,000 | 500,000 | 10,000,000 | 14,080,000 |
| 1991 | 15,700,000 | 6,800,000 | (220,000) | 2,300,000 | 24,580,000 | 4,800,000 | 4,200,000 | 600,000 | 500,000 | 10,100,000 | 14,480,000 |
| 1992 | 16,000,000 | 7,000,000 | (220,000) | 2,300,000 | 25,080,000 | 4,800,000 | 4,300,000 | 600,000 | 500,000 | 10,200,000 | 14,880,000 |
| 1993 | 16,200,000 | 7,200,000 | (220,000) | 2,400,000 | 25,580,000 | 4,800,000 | 4,300,000 | 600,000 | 500,000 | 10,200,000 | 15,380,000 |
| 1994 | 16,400,000 | 7,400,000 | (220,000) | 2,400,000 | 25,980,000 | 4,800,000 | 4,400,000 | 600,000 | 500,000 | 10,300,000 | 15,680,000 |
| 1995 | 16,700,000 | 7,600,000 | (220,000) | 2,400,000 | 26,480,000 | 4,800,000 | 4,500,000 | 600,000 | 500,000 | 10,400,000 | 16,080,000 |
| 1996 | 16,900,000 | 7,800,000 | (220,000) | 2,500,000 | 26,980,000 | 4,800,000 | 4,600,000 | 600,000 | 500,000 | 10,500,000 | 16,480,000 |
| 1997 | 17,200,000 | 8,100,000 | (220,000) | 2,500,000 | 27,580,000 | 4,800,000 | 4,800,000 | 600,000 | 500,000 | 10,700,000 | 16,880,000 |
| 1998 | 17,400,000 | 8,300,000 | (220,000) | 2,600,000 | 28,080,000 | 4,800,000 | 4,800,000 | 600,000 | 500,000 | 10,700,000 | 17,380,000 |
| 1999 | 17,700,000 | 8,600,000 | (220,000) | 2,600,000 | 28,680,000 | 4,800,000 | 5,000,000 | 600,000 | 500,000 | 10,900,000 | 17,780,000 |
| 2000 | 18,000,000 | 8,800,000 | (220,000) | 2,700,000 | 29,280,000 | 4,800,000 | 5,100,000 | 600,000 | 500,000 | 11,000,000 | 18,280,000 |

## Table XII

### Debt Service Requirements
### Existing + $79,000,000 in G.O. Bonds (5½%)

| | Debt Service Existing After Fiscal 1972 | Debt Service of $79,000,000 (G.O. Bonds) | Total Debt Service |
|---|---|---|---|
| 1970 | 4,316,000 | - | 4,316,000 |
| 1971 | 4,964,000 | - | 4,964,000 |
| 1972 | 5,709,000 | 385,000 | 6,094,000 |
| 1973 | 5,717,000 | 1,555,000 | 7,272,000 |
| 1974 | 5,899,000 | 2,328,000 | 8,327,000 |
| 1975 | 5,783,000 | 3,169,000 | 8,952,000 |
| 1976 | 5,679,000 | 4,916,000 | 10,595,000 |
| 1977 | 5,486,000 | 6,243,000 | 11,729,000 |
| 1978 | 5,276,000 | 6,544,000 | 11,820,000 |
| 1979 | 5,196,000 | 6,405,000 | 11,601,000 |
| 1980 | 5,047,000 | 6,280,000 | 11,327,000 |
| 1981 | 4,965,000 | 6,139,000 | 11,104,000 |
| 1982 | 4,831,000 | 5,999,000 | 10,830,000 |
| 1983 | 4,741,000 | 5,859,000 | 10,600,000 |
| 1984 | 4,211,000 | 5,729,000 | 9,940,000 |
| 1985 | 4,109,000 | 5,597,000 | 9,688,000 |
| 1986 | 4,038,000 | 5,393,000 | 9,476,000 |
| 1987 | 3,960,000 | 5,299,000 | 9,259,000 |
| 1988 | 3,955,000 | 5,159,000 | 9,114,000 |
| 1989 | 3,838,000 | 5,104,000 | 8,942,000 |
| 1990 | 3,759,000 | 4,879,000 | 8,638,000 |
| 1991 | 3,204,000 | 4,763,000 | 7,967,000 |
| 1992 | 3,116,000 | 4,622,000 | 7,738,000 |
| 1993 | 3,131,000 | 4,681,000 | 7,812,000 |
| 1994 | 3,061,000 | 4,728,000 | 7,789,000 |
| 1995 | 3,056,000 | 4,566,000 | 7,622,000 |
| 1996 | 2,678,000 | 4,403,000 | 7,081,000 |
| 1997 | 2,591,000 | 4,240,000 | 6,831,000 |
| 1998 | 2,211,000 | 4,076,000 | 6,287,000 |
| 1999 | 2,212,000 | 4,113,000 | 6,325,000 |
| 2000 | 748,000 | 4,139,000 | 4,887,000 |

# Table XIII

## Debt Service Requirements
## Existing + $79,000,000 in Revenue Bonds (7¼%)

| | Debt Service Existing After Fiscal 1972 | Debt Service of $79,000,000 (Revenue Bonds) | Total Debt Service |
|---|---|---|---|
| 1970 | 4,316,000 | - | 4,316,000 |
| 1971 | 4,964,000 | - | 4,964,000 |
| 1972 | 5,709,000 | 507,000 | 6,216,000 |
| 1973 | 5,717,000 | 1,922,000 | 7,639,000 |
| 1974 | 5,899,000 | 2,946,000 | 8,845,000 |
| 1975 | 5,783,000 | 3,883,000 | 9,666,000 |
| 1976 | 5,679,000 | 5,964,000 | 11,643,000 |
| 1977 | 5,486,000 | 7,499,000 | 12,985,000 |
| 1978 | 5,276,000 | 7,437,000 | 12,713,000 |
| 1979 | 5,196,000 | 7,651,000 | 12,847,000 |
| 1980 | 5,047,000 | 7,467,000 | 12,514,000 |
| 1981 | 4,965,000 | 7,282,000 | 12,247,000 |
| 1982 | 4,831,000 | 7,098,000 | 11,929,000 |
| 1983 | 4,741,000 | 6,915,000 | 11,656,000 |
| 1984 | 4,211,000 | 6,729,000 | 10,940,000 |
| 1985 | 4,109,000 | 6,545,000 | 10,654,000 |
| 1986 | 4,038,000 | 6,359,000 | 10,397,000 |
| 1987 | 3,960,000 | 6,174,000 | 10,134,000 |
| 1988 | 3,955,000 | 5,990,000 | 9,945,000 |
| 1989 | 3,838,000 | 5,805,000 | 9,643,000 |
| 1990 | 3,759,000 | 5,621,000 | 9,380,000 |
| 1991 | 3,204,000 | 5,461,000 | 8,665,000 |
| 1992 | 3,116,000 | 5,275,000 | 8,391,000 |
| 1993 | 3,131,000 | 5,289,000 | 8,420,000 |
| 1994 | 3,061,000 | 5,288,000 | 8,349,000 |
| 1995 | 3,056,000 | 5,074,000 | 8,130,000 |
| 1996 | 2,678,000 | 4,858,000 | 7,536,000 |
| 1997 | 2,591,000 | 4,643,000 | 7,234,000 |
| 1998 | 2,211,000 | 4,428,000 | 6,639,000 |
| 1999 | 2,212,000 | 4,412,000 | 6,624,000 |
| 2000 | 748,000 | 4,382,000 | 5,130,000 |

## Table XIV

### Net Cash Flow ($B_H$ + G.O.)
### Optimistic Cargo Forecast with
### $79,000,000 Added G.O. Bonds

| | Net Available for Debt Service | Total Debt Service Existing + $79,000,000 (G.O. Bonds) | Cash Flow |
|---|---|---|---|
| 1970 | 1,678,000 | 4,316,000 | (2,638,000) |
| 1971 | 3,250,000 | 4,964,000 | (1,714,000) |
| 1972 | 5,140,000 | 6,094,000 | ( 954,000) |
| 1973 | 6,130,000 | 7,272,000 | (1,142,000) |
| 1974 | 5,920,000 | 8,327,000 | (2,407,000) |
| 1975 | 6,510,000 | 8,952,000 | (2,442,000) |
| 1976 | 6,700,000 | 10,595,000 | (3,895,000) |
| 1977 | 9,780,000 | 11,729,000 | (1,949,000) |
| 1978 | 9,980,000 | 11,820,000 | (1,840,000) |
| 1979 | 10,380,000 | 11,601,000 | (1,221,000) |
| 1980 | 10,580,000 | 11,327,000 | ( 747,000) |
| 1981 | 10,880,000 | 11,104,000 | ( 224,000) |
| 1982 | 11,280,000 | 10,830,000 | 450,000 |
| 1983 | 11,480,000 | 10,600,000 | 880,000 |
| 1984 | 11,880,000 | 9,940,000 | 1,940,000 |
| 1985 | 12,280,000 | 9,688,000 | 2,592,000 |
| 1986 | 12,580,000 | 9,476,000 | 3,104,000 |
| 1987 | 12,980,000 | 9,259,000 | 3,712,000 |
| 1988 | 13,280,000 | 9,114,000 | 4,166,000 |
| 1989 | 13,780,000 | 8,942,000 | 4,838,000 |
| 1990 | 14,080,000 | 8,638,000 | 5,442,000 |
| 1991 | 14,480,000 | 7,967,000 | 6,513,000 |
| 1992 | 14,880,000 | 7,738,000 | 7,142,000 |
| 1993 | 15,380,000 | 7,812,000 | 7,568,000 |
| 1994 | 15,680,000 | 7,789,000 | 7,891,000 |
| 1995 | 16,080,000 | 7,622,000 | 8,458,000 |
| 1996 | 16,480,000 | 7,081,000 | 9,399,000 |
| 1997 | 16,880,000 | 6,831,000 | 10,049,000 |
| 1998 | 17,380,000 | 6,287,000 | 11,093,000 |
| 1999 | 17,780,000 | 6,325,000 | 11,455,000 |
| 2000 | 18,280,000 | 4,887,000 | 13,393,000 |

## Table XV

### Net Cash Flow ($C_H$ + Revenue)
### Optimistic Cargo Forecast with
### $79,000,000 Added Revenue Bonds

| | Net Available for Debt Service | Total Debt Service Existing + $79,000,000 (Revenue Bonds) | Cash Flow |
|---|---|---|---|
| 1970 | 1,678,000 | 4,316,000 | (2,638,000) |
| 1971 | 3,250,000 | 4,964,000 | (1,714,000) |
| 1972 | 5,140,000 | 6,216,000 | (1,076,000) |
| 1973 | 6,130,000 | 7,639,000 | (1,509,000) |
| 1974 | 5,920,000 | 8,845,000 | (2,925,000) |
| 1975 | 6,510,000 | 9,666,000 | (3,156,000) |
| 1976 | 6,700,000 | 11,643,000 | (4,943,000) |
| 1977 | 9,780,000 | 12,985,000 | (3,205,000) |
| 1978 | 9,980,000 | 12,713,000 | (2,733,000) |
| 1979 | 10,380,000 | 12,847,000 | (2,467,000) |
| 1980 | 10,580,000 | 12,514,000 | (1,934,000) |
| 1981 | 10,880,000 | 12,247,000 | (1,367,000) |
| 1982 | 11,280,000 | 11,929,000 | ( 649,000) |
| 1983 | 11,480,000 | 11,656,000 | ( 176,000) |
| 1984 | 11,880,000 | 10,940,000 | 940,000 |
| 1985 | 12,280,000 | 10,654,000 | 1,226,000 |
| 1986 | 12,580,000 | 10,397,000 | 2,183,000 |
| 1987 | 12,980,000 | 10,134,000 | 2,846,000 |
| 1988 | 13,280,000 | 9,945,000 | 3,335,000 |
| 1989 | 13,780,000 | 9,643,000 | 4,137,000 |
| 1990 | 14,080,000 | 9,380,000 | 4,700,000 |
| 1991 | 14,480,000 | 8,665,000 | 5,815,000 |
| 1992 | 14,880,000 | 8,391,000 | 6,489,000 |
| 1993 | 15,380,000 | 8,420,000 | 6,960,000 |
| 1994 | 15,680,000 | 8,349,000 | 7,331,000 |
| 1995 | 16,080,000 | 8,130,000 | 7,950,000 |
| 1996 | 16,480,000 | 7,536,000 | 8,944,000 |
| 1997 | 16,880,000 | 7,234,000 | 9,646,000 |
| 1998 | 17,380,000 | 6,639,000 | 10,741,000 |
| 1999 | 17,780,000 | 6,624,000 | 11,156,000 |
| 2000 | 18,280,000 | 5,130,000 | 13,150,000 |

## Table XVI

### Difference Between Cash Flow
### Under G.O. and Revenue Bonds
### Optimistic Forecast ($C_H$)

| | G.O. Bonds | Revenue Bonds | Difference |
|---|---|---|---|
| 1970 | (2,638,000) | (2,638,000) | - |
| 1971 | (1,714,000) | (1,714,000) | - |
| 1972 | ( 954,000) | (1,076,000) | 122,000 |
| 1973 | (1,142,000) | (1,509,000) | 367,000 |
| 1974 | (2,407,000) | (2,925,000) | 518,000 |
| 1975 | (2,442,000) | (3,156,000) | 714,000 |
| 1976 | (3,895,000) | (4,943,000) | 1,048,000 |
| 1977 | (1,949,000) | (3,205,000) | 1,256,000 |
| 1978 | (1,840,000) | (2,733,000) | 893,000 |
| 1979 | (1,221,000) | (2,467,000) | 1,246,000 |
| 1980 | ( 747,000) | (1,934,000) | 1,187,000 |
| 1981 | ( 224,000) | (1,367,000) | 1,143,000 |
| 1982 | 450,000 | ( 649,000) | 1,099,000 |
| 1983 | 880,000 | ( 176,000) | 1,056,000 |
| 1984 | 1,940,000 | 940,000 | 1,000,000 |
| 1985 | 2,592,000 | 1,226,000 | 1,366,000 |
| 1986 | 3,104,000 | 2,183,000 | 921,000 |
| 1987 | 3,712,000 | 2,846,000 | 866,000 |
| 1988 | 4,166,000 | 3,335,000 | 831,000 |
| 1989 | 4,838,000 | 4,137,000 | 701,000 |
| 1990 | 5,442,000 | 4,700,000 | 742,000 |
| 1991 | 6,513,000 | 5,815,000 | 698,000 |
| 1992 | 7,142,000 | 6,489,000 | 653,000 |
| 1993 | 7,568,000 | 6,960,000 | 608,000 |
| 1994 | 7,891,000 | 7,331,000 | 560,000 |
| 1995 | 8,458,000 | 7,950,000 | 508,000 |
| 1996 | 9,399,000 | 8,944,000 | 455,000 |
| 1997 | 10,049,000 | 9,646,000 | 403,000 |
| 1998 | 11,093,000 | 10,741,000 | 352,000 |
| 1999 | 11,455,000 | 11,156,000 | 299,000 |
| 2000 | 13,393,000 | 13,150,000 | 243,000 |

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